PSGR Krishnammal College for Women

National Conference on

APPLICATIONS OF INTELLIGENT ROBOTIC PROCESS AUTOMATION

NCAIRPA'22

25th March 2022

CONFERENCE PROCEEDINGS

Department of Computer Science / Cognitive Systems
Information Technology / Computer Applications

ICTACADEMY®

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Department of Computer Science
Department of Computer Science with Cognitive Systems
Department of Information Technology
Department of Computer Applications
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Preface

Throughout the world, nations have started recognizing that computing technology is now acting as a catalyst in speeding up the economic activities in efficient governance, citizen's empowerment and in improving the quality of human life. Recent developments in computing technology have touched almost every conceivable area of human life. Emergence of Information and Communication Technologies (ICT) on the national agenda, witnesses the impact of IT on good governance, sustainable development, globalization of economy and social empowerment. Considering this, the theme, computing technology, is very much relevant and timely, even now. In today's digital world, enterprises are looking toward cost-efficient digital delivery. Robotics Process Automation (RPA) is a rapidly growing technology that helps enterprises automate processes by mimicking human action on computers, thereby delivering faster with consistent quality. Many cognitive abilities are now being introduced in this technology.

The exponential growth of technology demands from all an adequate and a well-researched response. It is often a debated issue, whether technology attracts research or research drives technology to greater heights. For us, who are in the use of technology and in the pursuit of research, cannot do away with either. It is in the interest of equipping all with the current trends in Computer related research and technology that we organize this National Level Conference NCAIRPA 22. Our aim is to provide a national arena where researchers can interact and share their knowledge and expertise.

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Robotic Process Automation in Banking, Insurance and Healthcare (RPA-BIH) - A Study

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Abstract - To achieve maximum efficiency, digital transformation has prompted a huge shift in corporate operating procedures, culminating in the use of new technology. Intelligent automation, which combines artificial intelligence with Robotic Process Automation (RPA), could not only automate repetitive, standardized procedures, but it can also process unprocessed data and make reliable estimate based on the analysis. However, there hasn't been much research into intelligent automation and its impact on many industries like banking, insurance, and healthcare. As a result, the goal of this research is to investigate and comprehend the applications, advantages, and influence of RPA in many industries. For this study, we used a case study approach, in which we looked at several use scenarios of automated processes and then highlighted how robotic process automation may help with smooth operations. Minimizing human involvement and boosting the reliability of future business projections.

Design and Development of Attendance Entry Repetitive Task Automation Tool (AERAT)

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Abstract - AERAT is a tool aim to provide automation for repetitive attendance entry for an educational institution. The research paper stages are divided into three stages: ① the preparation stage, ② the Robotic Process Automation (RPA) implementation stage, and ③ the evaluation stage. This paper highlights how RPA is being used to integrate repetitive tasks within an Enterprise Resource Planning (ERP) system to automate attendance entry by faculty. RPA is a technology that is a vital tool for every organisation that allows users to automate, manage, analyse, and update existing databases efficiently and without any error. In this paper first section consist of introduction about the RPA and attendance management system, section two gives an overview of literature review about proposed work, third section deals with the tools available for RPA, section four illustrates the methodology of the proposed work and section five shows the results and discussion of AERAT.

A Review on Robotic Process Automation and Artificial Intelligence in Industry 4.0

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Abstract - Considering the technological evolution of the last decades and the production of information systems in society, today it can be seen most services provided by companies and institutions as digital services. Industry 4.0 is the fourth industrial revolution where technologies and automation are asserting themselves as major changes. Robotic Process Automation (RPA) has numerous advantages in terms of automating organizational and business processes. Allied to these advantages, the complementary use of Artificial Intelligence (AI) algorithms and techniques allows to improve the accuracy and execution of RPA processes in the extraction of information, in the recognition, classification, forecasting and optimization of processes. In this framework, this paper aims to present a study of the RPA tools associated with AI that can contribute to the improvement of the organizational processes associated with Industry 4.0. It appears that the RPA tools enhance their functionality with the objectives of AI being extended with the use of Artificial Neural Network algorithms, Text Mining techniques and Natural Language Processing techniques for the extraction of information and consequent process of optimization and of forecasting scenarios in improving the operational and business processes of organizations.

Secure Data Transmission using On-Demand Routing Protocol and Hybrid Cryptography in MANET

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Abstract - Mobile Ad hoc Network is the significant technology among various wireless communication technologies where all the nodes are mobile, and which can be connected to dynamically used wireless link in a random manner. The self-configuring ability of nodes in MANETs made it popular among critical applications like military use or natural emergency recovery. Most of the proposed protocols assume that all nodes in the network are cooperative, and do not address any security issue. To adjust to such trend, it is vital to address its potential security issues. The main objective of this paper is to define the path for security and to further improve throughput, routing overhead, end-to-end delay, packet delivery ratio and at the same time to create energy enhanced way with excellent security. Implementation of cryptographic algorithm for the information is done in such a way that it is impossible for the attackers to knock the resources of information sent on the web. In this chapter, propose a new intrusion detection system called Enhanced Adaptive 3

Acknowledgement (ECC-EA3ACK), using EA3ACK with Elliptical curve cryptography is (ECC) specially designed for MANET. In this ECC there is a two key encryption technique based on elliptic curve based theory that can be used to create faster, smaller, more energetic and efficient cryptography. Above developed on-demand routing protocol achieve target than existing model through one of leading simulator called Network Simulator (NS2) is used to implement and test the proposed system. The proposed cryptography provides secured transmission, further it reduces routing overhead, improves packet delivery ratio, throughput and minimize delay due to increasing remaining energy and improving security.

A Study on Implementing RPA with Cognitive Automation

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Abstract - Robotic process automation (RPA) is a technology that mimics the way humans interact with software to perform high-volume, repeatable tasks. With RPA, software users create software robots, or "bots", that can learn, mimic, and then execute rules-based business processes. Cognitive automation is a subset of AI technologies that mimic human behavior. RPA together with cognitive technologies such as speech recognition and natural language processing automate perceptual and judgment-based tasks once reserved for humans. It is commonly associated with Robotic Process Automation (RPA) as the conjunction between Artificial Intelligence (AI) and Cognitive Computing. Cognitive automation leverages different algorithms and technology approaches such as natural language processing, text analytics and data mining, semantic technology and machine learning. In this paper, the implementation of Cognitive Automation in RPA is analysed.

Robotic Process Automation Applications in Healthcare

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Abstract - Healthcare systems contain multiple burdensome tasks and strict regulations that require a substantial amount of resource allocation. This leads to inefficiencies, high costs of operations, and slow processes. By leveraging the power of automation and RPA, healthcare providers can address these issues and make healthcare systems more efficient, healthcare processes faster, and improve the overall levels of patient satisfaction. The RPA solutions

prevalent in the healthcare industry can be described as software that orchestrates other applications and performs tedious back-office tasks on its own, thus freeing healthcare workers' time for diagnostic work and meaningful doctor-patient interactions. Intelligent software agents are good at processing transactions, manipulating data, triggering responses, and conversing with internal and external IT systems. In the study, we give a survey on numerous works, research, uses, applications etc. on RPA in Healthcare.

Generate Offer Letter using RPA

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Abstract - Robotic process automation streamlines workflows, which makes organizations more profitable, flexible, and responsive. It also increases employee satisfaction, engagement, and productivity by removing mundane tasks from their workdays. RPA is non-invasive and can be rapidly implemented to accelerate digital transformation. And it's ideal for automating workflows that involve legacy systems that lack APIs, virtual desktop infrastructures (VDIs), database access. Bulk Hiring / Campus Recruitment is a strategy for sourcing and hiring young crowd for internship or entry-level positions for medium- to large-sized companies with high-volume recruiting efforts. Once the Hiring process is completed. The HR must work on generation of offer letters and rollout the offer letters to the hired candidates which is a repetitive and mundane task. Robot Reads the Status files from Email or Shared Location and Filtered the Hired Candidates and send the offer Letter.

Robotic Process Automation Architecture: A Case Study of Process Flow

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Abstract - Robotic Process Automation (RPA) platforms provide the tools to design, manage and run robot scripts to automate repetitive tasks that are usually performed through an application user interface. With the RPA architecture, one can automate their routine tasks quickly and cost effectively. Under this, we would then define RPA and examine its architectural design. This paper will define every particular of just what tends to make a framework an RPA, as well as the architecture on which such technology could be

assembled. Here we are going to learn about the RPA, RPA architecture and its architectural components.

Data Entry Automation for Hand Filled Forms using OCR in RPA

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Abstract - Robotic Process Automation is a popular topic in the business world, academic research on the subject lacks a theoretical and synoptic analysis. Organizations hope to improve their operational process by enabling Robotic Process Automation (RPA). In RPA, robots, or 'bots,' are software agents capable of interacting with software systems by representing user actions, thereby reducing the workload of the human workforce. In this new informative era, data and information is the most important asset to the organizations. A large amount of money and manpower have been spent in data gathering, data entry, and storage every year. This data is then entered and stored into databases in government and private organisations manually. Such mode of data entry and storage requires a lot of manpower and is time consuming. The system consists of a high-speed scanner with an auto-feeder and a computer. In the first phase a software is developed that allows the user to design the template of existing forms such that only the regions of interests are captured. The next phase involved the design of a software to capture handwritten characters in the regions of interest through the scanned forms. Image processing techniques are then used to filter and improve the image of the scanned handwritten characters before they are recognized using a neural network algorithm. Once the characters are identified and verified, they are automatically stored into a database.

An Effective Deep Learning Algorithms for Big Data Analytics: A Study

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Abstract - Deep Learning is currently a hot topic in the pattern recognition and machine learning communities. Computer Vision, Speech and Audio Processing, and Natural Language Processing are just a few of the domains where it has had extraordinary success. Every day, massive amounts of data are generated from a variety of sources. As a result, the phrase "data" has been renamed "Big Data," which has its own set of issues in terms of information acquisition and decision-making. Deep Learning capabilities can help with these data, particularly its capacity to deal with both labelled and unlabelled data, which are frequently acquired in large amounts in Big Data. As a result, Deep Learning has only just

begun to play a substantial part in achieving Big Data analytics solutions. By illustrating the structure and learning elements of the most used Deep Neural Networks, this analysis explains how Deep Learning architectures vary from convolutional structured designs. We'll present an overview of Big Data and point out specific data analysis difficulties that Deep Learning can solve. We will present various Deep Learning research that are employed as a data analysis solution. Finally, several Deep Learning problems arising from Big Data's specialized data analysis requirements will be demonstrated.

Night Patrol Robots using IoT

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Abstract - In this paper we suggest a robot patrolling security that uses night vision camera to protect any property. A new security technique based on a patrolling robot using the Raspberry pi has been proposed. It can detect and track sound in the surrounding environment. After the firm has closed, any sound begins, it moves towards the sound on its fixed path. It then uses its Night Vision camera to scan the area for any human faces. If the robot found any faces it quickly starts recording and relaying photographs of the situation after detecting a sound or a human face. This is where we hold the Internet of Things Local Area Network (LAN) to receive transferred photos and display them to the user along with warning Sounds. The objective is to safeguard the entire region.

Web Scraping using RPA

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Abstract - Web scraping with Robotic Process Automation (RPA) uses bots to automate the web data extraction from selected websites and stores it for use. RPA delivers quicker results by eliminating the need for manual data entry and it reduces human errors. People often spend hours browsing the net and collecting necessary information manually, which is not the most exciting task, leading to errors because of tiredness or boredom. By applying web scraping automation, companies can extract data more efficiently and redistribute employees to more crucial business tasks. RPA bots integrated with other technologies such as machine

learning makes the bot an even more powerful tool. For example, machine learning combined with bots can locate companie's websites from their logos.

Adoption of Robotic Process Automation Technology – A Game Changer in the Healthcare Sector

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Abstract - Integrating information from various internal and external sources presents a challenging task for the healthcare sector. Daily, the healthcare industry collects and processes massive amounts of data from lab information systems, clinical applications, third-party portals, radiology information systems, insurance portals, scheduling applications, HR applications, and ERP systems. Historically, healthcare organizations relied on manpower for these data-driven tasks, putting more pressure on resources and resulting in inherent inefficiencies. Data integration and flow of information across all of these source materials are complex, multi-layered, and repetitive. Robotic Process Automation (RPA) can automate monotonous, time-consuming, and labor-intensive tasks essential to functioning, processing, and providing healthcare to improve efficiency and realize tangible benefits. Investing will benefit the healthcare industry. RPA's successful implementation leads to better patient care at a lower cost. This insight article will go over the organizational benefits of RPA as well as specific use cases demonstrating RPA's impact in the industry. The technology has been shown to provide significant business value across a wide range of industries while having relatively low adoption barriers.

Smart Integrating Digital Contact Tracing with IoMT for COVID-19 using Genetic Algorithm

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Abstract - In the present days, the tracking of COVID 19 affected person contact details will become a risky task. As per the research, symptoms for COVID 19 can be predicted only after 15 days. During this interval of 15 days, the corresponding affected person may have contacts with many persons which cannot be predicted. To overcome the problem, this paper is focused to trace both home contacts and business contacts. In this paper the new algorithm has been developed GABFCov-19 which is based on genetic algorithm. This algorithm will generate high probability positive cases so that it can reduce the community spread. This algorithm is the extended version of the contact tracing mechanism where the clusters are identified. The clusters have been taken from the proximity cluster users and converted into

chromosomes that are again operated using selection, crossover and mutation operators" in order to categorize the proximity users as mild, moderate and high risk. The proposed algorithm is tested on dataset and obtained significant results. The RFID fetches the details of the near contacts and stored in the cloud database (AWS). An Android application is designed to track the location of contact details through GPS. By selecting the patient RFID tag number, the application will show all the contacted person details for the past 15 days. This will be more useful to stop the spreading of virus by testing the contacted person in quick time. The temperature sensor helps in monitoring the person body temperature. If the temperature increases, the intimation of corresponding person details stored in the cloud. To transfer the data, MIMO (Multiple Input Multiple Output) wireless network is used.

Comparative Analysis of RPA Tools: A Review

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Abstract - Robotic process automation is a new technology in today's market used to automate routine tasks and to do this we need RPA tools. It is used to automate the redundant and repetitive task and as a result contributes towards building a large digital workforce. It also reduces the use of manpower and time requirement whereas increasing the accuracy and revenue generation. There are various service platforms which provide tools for robotic process automation. Three majors among these are- Automation anywhere, UiPath and Blue Prism. These bots follow defined or recorded actions to perform the given task in a controlled ecosystem developed by such platform providers. Many software automation techniques have been developed in the last decade to cut down cost, improve customer satisfaction, and reduce errors. The paper provides the overview of the RPA definitions and RPA tools as well as benefits, application, and features of its implementation in different fields.

Robotic Process Automation (RPA) in Health Care and its Challenges

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Abstract - The development of RPA in various industries is tremendous these days. This paper gives you the information about: What is RPA? The working of RPA, and then it covers the key role of RPA around Health Care like: Why is health care ready for automation? RPA in health care, Case study, RPA in COVID-19, How bot helps you with? Some misconceptions about RPA and finally conclusions of "RPA IN HEALTHCARE". We

would also like to provide you with some basic references on the popular RPA TOOLS. At the end of this presentation the viewers can have a clear idea and concept of "RPA IN HEALTHCARE".

Robotic Process Automation with Artificial Intelligence- A Case Study

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Abstract - Robotic Process Automation is a popular topic in the business world, academic research on the subject lacks a theoretical and synoptic analysis. Organizations hope to improve their operational process by enabling Robotic Process Automation (RPA). In RPA, robots, or 'bots,' are software agents capable of interacting with software systems by representing user actions, thereby reducing the workload of the human workforce. RPA has already seen significant adoption in practice, with different vendors offering solution innovations. While RPA is used to work in conjunction with people by automating repetitive processes, Artificial Intelligence is viewed as a form of technology to replace human labour and automate end-to-end. RPA uses structured inputs and logic, while AI uses unstructured inputs and develops its own logic. Combining both RPA and Artificial Intelligence can create a fully autonomous process. The purpose of this paper is to present a study of Robotic Process Automation (RPA) applications and tools related to Artificial Intelligence. We also discussed about the various applications of Artificial Intelligence in Robotic Process Automation, and the benefits and drawbacks of Robotic Process Automation.

Robotics Process Automation and Artificial Intelligence 4.0

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Abstract - In consideration to the technological evolution of the last decades and the rapid increase of information systems incorporated in the society, today we see a major growth in the services provided by companies and institutions as digital services. The automation of robotic processes has been experiencing an increasing trend of interest in recent time. Industry 4.0 is the fourth industrial revolution where technologies and automation are asserting themselves as the major changes. Robotic Process Automation (RPA) has numerous advantages in terms of automating organizational and business processes. Allied to these advantages, the complementary use of Artificial Intelligence (AI) algorithms and techniques allows to improve the accuracy and execution of RPA processes. It also works in

improvement of information, in the recognition, classification, forecasting and optimization of processes. In this context, this paper aims to present a study of the RPA tools associated with AI that can contribute to the improvement of the organizational processes associated with Industry 4.0. It appears with the RPA tools that works in combination with AI which enhances on Intelligent Process Automation (IPA). It stresses on how to manage and automate digital processes. IPA works on the increase of operational efficiency, worker performance and response efficiency to customers.

Robotic Process Automation – A Systematic Data Scraping Process using UiPath

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Abstract - The growth of using computing systems has drastically increased in the past few years. Automation has gained importance due to its efficiency and effectiveness. Robotic Process Automation would help to automate repetitive mechanical software system. In this system, the robot is a privileged and virtual employee who can perform everything that a human could have done. RPA has a wide range of products from which one of the tools is UiPath. This tool is chosen because it provides two kinds of edition from which one can be used for learning and research and the other edition is used to implement actual process in an organization. Data Scraping is a powerful component of UiPath Studio. This paper provides the results of web scraping process and screen scraping process on RPA.

Robotic Process Automation in Aerospace, Banking, Insurance, Engineering & Healthcare

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Abstract - This paper provides an overview of industries, companies and individual company divisions that potentially have enough processes that can be automated. One focus is on the industry-specific areas of financial organisations. In a further step, technical selection criteria for processes suitable for RPA are established and explained. RPA is a technology with would make the work lot easier. RPA has its major application on banking, insurance, aerospace, engineering, and healthcare. One of the most important tasks in the Robotic Process Automation program is the right selection of business processes and activities. It ensures positive results by automating the tasks that are repetitive and rule based. There are

several examples of Robotic Process Automation in our day-to-day tasks. In the present time, many multinational companies are using this technology to automate their day-to-day tasks. By implementing RPA, these companies are getting accurate, reliable, and consistent outputs with high productivity rates.

A Study on RPA Tools –UiPath, Blue Prism and Automation Anywhere

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Abstract - Robotic Process Automation (RPA) is the software technology which is used to deploy and manage robots which perform human tasks. It also performs repetitive tasks. It is also defined as "DIGITAL WORKER". It is fast and highly efficient. By using RPA, the software tools are completely secured. RPA promotes faster debugging techniques. One of the most important features about RPA is platform independent, intelligence etc. The most important functionality is based on the inputs gathered from other systems which are used to boot the software. Boost productivity is one the most important benefit of RPA. RPA also produces data for important analytics. RPA supports various tools to create, control and manage the robots. These tools are used by organizations to promote the software. This paper focuses on the study of UiPath, Blue Prism and Automation Anywhere tools.

Design and Implementation of Price Monitoring using RPA in Online Commodities

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Abstract - Robotic Process Automation (RPA) is an emerging form of business process automation technology based on the concept of software robots. RPA is a technology developed on software robots to perform certain repetitive tasks that allow them to control applications, collect data, feed them to other applications and manipulate data. This paper explores about, a robot will automatically extract data from source to track price of the product with the help of UiPath and feed those data into an excel application. Many businesses organization works with multiple suppliers and fluctuating prices, which can make sourcing products and cost containment laborious and undependable. The result show that the use of robotic process automation (RPA) helps organisations to automate business processes in a relatively short amount of time.

RPA and Metaverse – Watch Space Online

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Abstract - Robotic Process Automation (RPA) which is also referred to as Software Robotics, is an emerging technology practice. It does human activities with minimal human intervention. In RPA, Robots can handle too many human tasks easily in less time, so this is also time consuming. RPA is not about a human or physical robot; it is about the use of software with artificial intelligence and machine learning. Robotics with metaverse is gaining more popularity in recent days because of its extreme smart functions. Metaverse can create an alternate world for the people. In simple words, in this modern world, people wish to live on the internet, but bringing everything that a human wishes to do on the internet to reality is known as metaverse. Imagine watching space in 3D mode and also a rocket live streaming the space. What if your imagination comes true? So as per the topic, space can be viewed by all of us in 3D mode using 'Starlink'. Starlink is operated by SpaceX which uses advanced satellites to enable live streaming, video calls, etc. Through this network, the rocket live streams the space and all the people can view the space in 3D mode using metaverse.

Design and Development of WhatsApp Automation Soft Bot

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Abstract- Robotic Process Automation (RPA) reduces lots of manual based work to speed-up business growth by facilitating real-time communication. This paper proposes an RPA application called as WhatsApp automation which is a software bot used to automate the bulk message sending process for a using UiPath studio. It is a set of automated bulk message sending application that simulates a human conversation on WhatsApp. This bot uses excel sheet as an input which contains 1000 phone numbers. In this paper section one deals with introduction about RPA, section two consists of related work of the automation of WhatsApp messages, section three shows the overview of RPA tools, section four provides information about methodology for the WhatsApp automation process, and finally section five illustrates the result and discussion of the proposed soft bot.

Robotics Process Automation and Internet of Things

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Abstract - Unnamed Aerial Vehicles (UAV) that is also known as drones are now considered as one of the best remote sensing techniques for gathering data over large areas. These drones are mainly used in industries like defence, photography, cinema, etc. Basically, it is an aircraft without any human pilot, these were controlled by humans using the remote. Drones communicate using radio waves on specific radio frequencies, which are called bands. This can be done only for a certain distance. The industrial Internet of Things (IIoT) sends data from the monitor and controls the physical world to the data processing system with the help of cloud computing. In Fog computing, the IoT gateway links different objects to the internet. It helps to operate as a joint interface for many networks. A UAV with IIOT technology will be having a higher advantage, this paper introduces an IIOT monitoring, and Control System based on an Unnamed Aerial Vehicle that uses cloud computing and fog computing as a bridge between IIOT layers. This paper aims to give an elaborated study about the concept of controlling UAVs through the IIOT platform.

Health Triggering in Robotics

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Abstract - Modern neurological rehabilitation medicine and its clinical research results show that the scientific rehabilitation training, the damaged limb motor functions are often restored to some extent. During the whole rehabilitation process, the physician must monitor and evaluate the patient's fitness and training effect in real-time, to develop or adjust the rehabilitation training program. Therefore, this paper takes the sports rehabilitation training because the background and supported the web of Things technology to develop a sports Rehabilitation monitoring system supported wearable sensors and Internet of Things technology. A monitoring system including electrocardiogram (ECG) signals, electromyography (EMG) signals, motion posture, blood heat, and other physiological parameters was constructed to support the web of Things technology. Evaluate the recovery of exercise capacity and training participation, hence the aim of improving training efficiency and achieving rehabilitation effects.

Impact of Artificial Intelligence in Cyber Security

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Abstract - The cyberattack surface in modern enterprise environments is massive, and it's continuing to grow rapidly. This means that analysing and improving an organization's cybersecurity posture needs more than mere human intervention.AI and machine learning are now becoming essential to information security, as these technologies are capable of swiftly analysing millions of data sets and tracking down a wide variety of cyber threats — from malware menaces to shady behaviour that might result in a phishing attack. These technologies continually learn and improve, drawing data from past experiences and present to pinpoint new varieties of attacks that can occur today or tomorrow.AI can be used to spot cyber threats and possibly malicious activities. Traditional software systems simply cannot keep pace with the sheer number of new malwares created every week, so this is an area AI can really help with. By using sophisticated algorithms, AI systems are being trained to detect malware, run pattern recognition, and detect even the minutest behaviours of malware or ransomware attacks before it enters the system. AI presents many advantages and applications in a variety of areas, cybersecurity being one of them. With fast-evolving cyberattacks and rapid multiplication of devices happening today, AI and machine learning can help to keep abreast with cybercriminals, automate threat detection, and respond more effectively than conventional software-driven or manual techniques.AI allows for superior predictive intelligence with natural language processing which curates data on its own by scraping through articles, news, and studies on cyber threats. This can give intelligence of new anomalies, cyberattacks, and prevention strategies. After all, cybercriminals follow trends too so what's popular with them changes constantly.AI-based cybersecurity systems can provide the latest knowledge of global as well as industry-specific dangers to better formulate vital prioritization decisions based not merely on what could be used to attack your systems but based on what is most likely to be used to attack your systems. The impact of AI on our lives will continue to grow as more technology is integrated into everyday life. Some experts believe that AI has a negative effect on technology, but others claim that AI can greatly improve our lives. For cybersecurity, the main benefits focus on faster analysis and mitigation of threats. Concerns focus on the ability of hackers to deploy more sophisticated cyber and technology-based attacks.

Digital Video Scrambling and Descrambling Using DWT in Chrominance Channel

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Abstract - Video scramblers are commonly employed to prevent unauthorized access to video data. Several video scrambling systems rely on methods of directly distorting the visual image data (in the spatial domain) such that, without de-scrambling, the video appears unintelligible to a viewer. These scrambling techniques are not efficient for transmitting digital video signals because they, in general, will significantly change the statistical property of the original video signal, thus making it very difficult to compress. Our objective is to create the existing video file unintelligible to the Viewer using the Block cipher algorithm such as DES for intruders and hackers difficult to break the information. The algorithm is used to make the video file in the compressed format which makes efficient to travel across the Network without any traffic problems and with higher security. The video file is converted into individual images at first in order to get the values of each frame and make the values interchange that makes the information unintelligible. Then the rearranged frames are converted again to video file it cannot be accessed except the client without the Descrambling process. In the Client side the Scrambled video is converted back to get the original Information as they have sent.

Loan Processing Organisation using RPA- A Survey

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Abstract - Robotic process automation (RPA) emerges as a new technology which is focused on automation of repetitive, routine, rule-based human tasks, aiming to bring benefits to the organizations that decide to implement such soft- ware solution. Since RPA is a relatively new technology available on the market, this paper aims to investigate how lenders are regularly facing pressure to reduce the prices as well as to reduce and save time. Thereby lenders do follow by switching into automation for better efficiency and accuracy of service. With automation bots, lenders can automate loan processing by collecting customer information, loan approval, loan monitoring, and automatic loan pricing. This can be achieved with the help of rule-based software bots. Robotic process automation can help agencies make underwriting decisions in each step of the process, from loan origination, screening, validation to loan management -- automating them partially or entirely. Modern borrowers prioritize fast, seamless, and hassle-free access to loan services at all times, places,

and through the channel of their choice. RPA helps the lending process be worthy of the customers they aspire to serve.

Applications of Robotic Process Automation in Healthcare Industry

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Abstract - Robotic process automation (RPA), also known as software robotics, uses automation technologies to mimic back-office tasks of human workers, such as extracting data, filling in forms, moving files, etc. It combines APIs and user interface (UI) interactions to integrate and perform repetitive tasks between enterprise and productivity applications. Managing and processing information distributed through multiple internal and external channels such as clinical applications, lab information, third-party portals, insurance portals, radiology information, scheduling applications, ERPs and HR applications is one of the key challenges faced by healthcare organizations. Integration is often complicated across these systems. Finally, as part of essential healthcare business processes, there is a solution that automates almost every manual, repetitive activity that needs to be applied to content to ensure it is obtained and acted on. RPA enables healthcare providers to track, document each process step in structured logos, files so that the company can comply with external audit.

A Study on Assessment Automation for Colleges using UiPath

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Abstract - Now-a-days, Students are besieged to find the CGPA, GPA and accurate percentage of their Semester marks. This paper is about Student Mark Calculation using Robotic Process Automation which hit accuracy goals with reliable consistency and performs repetitive process. This calculates student percentage, GPA or CGPA on the required scale and in addition automate a mail to the student respectively using email automation. It imports student mark data from the student mark excel sheet and perform calculation based on the formulae proffered by the RPA developer in the UiPath tool. It performs the intended calculation, display the desired output, and automate a mail to end user.

Application of RPA- Extracting Data from Pdf File - Case Study

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Abstract - This paper focuses on the automation process of reading the data from the PDF file and accumulating them in the distinct file format. The process of updating records and important documents is done usually by scanning and storing the data as PDF files. This process reads the abundant amount of data from the PDF files and saves them in the desire file format with the help of robotic process automation. The tool used to implement these concepts is UiPath studio which helps to automate proffered data. This paper provides the RPA definitions and its practical usage for the above-mentioned problems.

Robotic Process Automation in Manufacturing Industries-A Survey

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Abstract - Robotic Process Automation (RPA) is a software technology which is easy to build, deploy and manage software robots that emulate human actions interacting with digital systems and software. Physical robots have already transformed the plant floor and now software robots are transforming everything in manufacturing and is a key for digital transformation in manufacturing industry. RPA in manufacturing helps in optimizing time-centric and routine processes, and increases the maximum productivity reducing cost by minimizing human errors also increases the agility in operations which results in 40% reduction in operational cost and visibility in end to end process and less duration. Also it is estimated that RPA has raised the productivity growth by 0.8% to 1.4% across the globe. Market size value in 2021 is USD 1.89 billion and revenue forecast is USD 13.74 billion in 2028 which results in CAGR of 32.8% from 2021-2028.

Design and Development of Google Form Filling Automation using UiPath

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Abstract - Robotic process automation is an emerging technology that creates a digital robotic workspace to automate repetitive task and manual processes into the digital process. It enhances the regular manual work effectively. RPA mimics human activities while interacting with computer applications. They are now globally deployed in various industries like banking and finance, healthcare, travel, education. It can be implemented using various tools they are apart, automation edge, visual corn, workable fusion, etc. This In this research work, UiPath software is used to automate the data entry process into Google form which takes input from an excel file. Data entry consists of numerous data and it should be handled efficiently. Excel CSV file has all the details which have to be filled into Google forms. While handling a large amount of data there is a chance of getting errors and time-consuming processes. The experiment results illustrate that the proposed work helps to minimize the error count and work consumption by using automation.

Weather Forecasting using Decision Tree

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Abstract - A decision tree is a tree-like structure used for classification algorithms and regression problems. This study contains the classification of the weather dataset by using the j48 algorithm. The data are classified, and the tree is Visualized by visualize tree in J48 Algorithm and the weather dataset is visualized with Outlook, Humidity, Windy, Play and Temperature as an attribute. The Tree contains outlook as a root node and humidity and windy as a leaf node.

Data Extraction from Handfilled Forms using Optical Character Recognition

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Abstract - In recent decades, technology advancements in society have aided in the reduction of time-consuming organizational activities, commercial operations, and much more. Robotic Process Automation (RPA) is one of these technologies, which uses softbots to automate

repetitive operations. One of the important aspects in RPA is Optical Character Recognition (OCR), which is used to recognize text from a scanned document that is either handwritten or typed. The combination of OCR with RPA enables extracting data from photos, PDFs, and other documents easier. OCR primarily aids in the elimination of manual errors and the reduction of time spent on tasks. The OCR method is used to extract data from hand-filled forms in this paper. Data extraction is a technique for extracting crucial elements from a complex combination of data that has been widely employed in a variety of fields. Data extraction is a technique for extracting crucial elements from a complex combination of data that has been widely employed in a variety of fields. Because doing it manually is tedious, this research work aims to automate the process using UiPath. Many automatic document-processing systems that are capable of 99 percent perfect recognition of handwritten text have been developed thanks to the OCR technology.

A Study on Softbots against Cybercrimes

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Abstract - Robotic Process Automation is an emerging technology which specifies a software-based solution for automating rule based business processes encompassing repetitive operations and structured data. We acknowledge that the vast bulk of digital services provided by businesses and institutions. Industry 4.0 refers to the fourth industrial revolution, which is characterized by significant advancements in technology and automation. One of the solutions which is emerging as a new technology is robotic process auto-mation (RPA) which can replace employees on repetitive tasks and automate them, and therefore, enable employees to be involved in more complicated tasks which can bring organization more value. The RPA has more number of features when it comes to automating the corporate processes. In addition to these benefits, the application of artificial intelligence algorithms and techniques in combination with RPA workflows to improve the efficiency and execution of information extraction, recognition, classification, and process optimization. In this context, the main aim of this paper is to provide a study on the RPA tool namely Kofax which is combined with AI model that can help to implement and automate the process of Industry 4.0 applications.

A Study on Robotic Process Automation in Automotive Industry

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Abstract - RPA is a technology that mimics the way humans interact with software to perform high- volume repeatable tasks. It also increases employee satisfaction, engagement, and productivity by removing mundane tasks from their workdays. RPA is not a humanoid robot; it is a software bot with no physical form and resemblance to humans. It cannot replace humans or replicate functions. It cannot perform logical and critical thinking. RPA is not the same as AI. AI is completely automated with no human interventions whereas RPA has done with humans. RPA has superseded humans in packing and labeling sectors, warehouses, and industries like automotive industry. In automotive industry, humans and bots work together to produce a wholesome product. Bots help humans on heavy-duty which lessens the work pressure for humans. The aims of this paper are to provide insights into RPA use cases from the automotive domain as well as to derive the main challenges to be tackled when introducing RPA in this domain.

A Survey on Robotic Process Automation and its Applications in Various Fields

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Abstract - Robotic Process Automation (RPA) is the automation of tasks and procedures that are followed by humans, which can be instructed to a machine. The Robotic Process Automation plays a vital role in the digital transformation scheme in maximum number of the firms as they provide numerous of benefits over the conventional automation solutions that are outdated. Robotic process automation is a technology that makes it easy to build, deploy, and maintain software bots that mimic human activities interacting with digital systems and software. Just like people, software bots can do all things like understand what's on a monitor, complete the tasks, navigate systems, identify, and extract data, and perform a wide range of predefined actions. But software robots can do it faster and more consistently than normal people, without the need for a break like humans. This paper studies the various applications of robotic process automation in various industrial processes and the overview of the benefits in using the RPA in various sectors.

A Study on Robotic Process Automation in Medical Management

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Abstract - Robotic Process Automation (RPA) reduces the workload of people. The target and the basic goal of the robotics is to make the technology the most advanced. In other words, PA is one of the most advanced emerging technologies and the speedy technology of robotics. In this paper the key concepts of RPA and its use in the healthcare department. The application of RPA includes the reduction of cost, limiting the occurrence of error and improving operational efficiency. According to the Institute for Robotic Process Automation (IRPA), the Robotic Process Automation improves workflows by automating the tasks and process which are based on the rules. Therefore, this paper gives the information briefly about the use of RPA in the Healthcare department.

The Future Digital Work Force: Robotic Process Automation

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Abstract - The Robotic Process Automatic (RPA) will be the newest technology. Robotic process automation will be the most advanced technologies ever. Robotics not only in the areas of computer science but also in the electronic and communication, mechanical engineering and IT. Robotics is named for its automation which is a combination of both hardware and software. The research paper we created is about the secondary data which clearly explains the need and applications of the Robotic Process Automation. The research manuscript which are available in Google, or research was based on the investigation which went for totally 6 months. The study about the Robotic Process automation will be briefly explained in the paper we prepare.

Robotic Process Automation in Medical Field

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Abstract - Robotic Process automation is an artificial process of using robots for business, healthcare, finance and industries. It is an advanced technology of today's generation. It is not only a local area network but it is easy to use robotics in healthcare. There are so many types of robots in health care such has laboratory robots, surgical robots for radiotherapy, hospital robots etc. These kinds of robots not only communicate with doctors but also it communicates with patients directly such as attention of patient and issuing the bills as per the doctor's instruction. The current world is running out in this process and the robotic automation in healthcare well developing factor in future too. Highly cost efficiency but the robotics will be at low cost in future due to the development of the country. Health care is important definitely the world belongs to the robotics process automation in future. Finding should rectify some of the drawback such as it need constant power for that we can create robots running off in solar power and we can create a chip size robots for incapable of space.

Adoption of Robotic Process Automatic Technology to Ensure the Business Process during Pandemic Crisis

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Abstract - Robotic Process Automation (RPA) has obtained growing attention within the digital transformation as this highly advanced technology automates human behaviour and assure high potential. Since the late 2019 the covid 19 disease, where spread all over the world. The world health organization have an alternate approach to support and control the pandemic by introducing robotic in various fields such as medical, business process, serving the food in hotels, surgical etc. Due to this situation most of the offline business process has been changed into online business. The IT field plays an important role in online business process during the pandemic, which can decrease the workload for humans. Most of the industries are adopting the robotic process automation technology during the covid 19 pandemic, because of the shortage of workers.so the companies are turning towards the technologies such as RPA to keep their business in the high standard. The robots can work like workers, and they can also maintain social distance. Robotic process technology is the gateway technology to artificial intelligence. After the pandemic, future trends are artificial intelligence, cloud technologies and big data.

A Review on Robot Process Automation in Various Future Business Industries

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Abstract - Robotic Process Automation (RPA) is the next generation of technology. Robotic Process Automation (RPA) is a technique for automating processes involving human interactions with one or more applications. In the fields of computer science, electrical and communications engineering, mechanical engineering, and information technology, Robotic process automation is one among the most sophisticated technologies. Finally, the process automation shows that robots and robotic process automation technologies are becoming a requirement for conducting business operations in enterprises all over the world. With non-invasive technological obstacles, RPA enables enhanced accuracy and productivity in sectors, resulting in cost savings and lower resource utilization. The survey on the deployment of robot process automation in various industrial processes is presented in this study, as well as an overview of the benefits of employing RPA. Furthermore, robotic process automation has several applications in a variety of industrial developments, including healthcare and pharmaceuticals, financial services, outsourcing, retail, telecom, energy and utilities, real estate, and fast-moving consumer goods, among others. This article will serve as a suitable starting point for academics, investigators, learners, and professionals.

RPA and Process Mining

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Abstract - Robotic process automation (RPA) emerges as a new technology which is shows on automation of repetitive, routine, rule-based human tasks, aiming to bring benefits to the organizations that decide to implement such software solution. RPA is a relatively new technology available on the market, the scientific literature on the topic is still scarce. Therefore, this paper aims to investigate how academic community defines RPA and to which extent has it been investigated in the literature in terms of the state, trends, and application of RPA, difference between RPA and business process management is also addressed. The paper provides the results of the conducted SLR on RPA providing an overview of the RPA definitions and practical usage as well as benefits of its implementation in different industries.

Analysing the Applications of Unorganised Sector using Robotic Process Automation (RPA)

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Abstract - India's unorganized sector includes 93% of the total workforce which covers half of the GDP. The purpose is to analyse the application of unorganized sectors using robotic process automation. It includes all integrated business enterprises owned by individuals engross in the sale and manufacturing of goods and services and run through a partnership basis with a minimum of 10 workers. Robotic Process Automation has become a trademark in global business areas. Thus, businesses are heading towards digitalization; it plays an experienced role and ensures that users get a smooth digital experience. The elaboration and in-depth analysis of this paper will provide some research foundation for robotic process automation implementation in the application of the unorganized sector. This presentation put in the picture about the implementation of robotic intelligence in incorporated businesses like agriculture, hotel industry, Building works, etc. The main criterion of using RPA is to satisfy the employees by reducing the workload.

RPA - The Guardian of Cyber Security

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Abstract - The latest digital revolution has led to more Robotic process automation (RPA) is being integrated into various fields such as agriculture, medicine, industry, military, police (law), and transportation. It is dedicated to helping, helping, and improving human health. However, many incidents have occurred, leading to serious injuries and devastating consequences such as the unnecessary loss of human lives. Unintentional accidents will always happen, but those caused by a vicious attack represent a very challenging subject. This includes hijacking and controlling robots and causing huge economic and financial losses. This paper reviews major security risks, threats, threats, and their implications, as well as key security threats. In this context, different approaches and recommendations are introduced to improve and enhance the security level of RPA systems such as multiple device / user authentication programs, in addition to cryptographic algorithms with many features. We are also reviewing the recently introduced security solutions for robotic systems. RPA technology has rapidly transformed the global economy in terms of business productivity and profitability. The market shifts to development and automation - not just in the warehouse and manufacturing sectors, but also in non-industrial areas such as defense, agriculture,

hospitals, offices and even schools. The availability of open-source platforms, hardware and falling electronic prices, rapid image processing and integration of technology are some of the major reasons for this new transformation. However, cyber security and physical threats are the mainstays where critical applications and equipment are involved. RPA has rapidly transformed the global economy in terms of business productivity and profitability.

NAP Spy using Machine Learning

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Abstract - Napspy is a car-based safety technology that tracks and monitors the state of drowsiness of the driver. With the aid of an image recognition algorithm termed Convolutional Neural Network [CNN], it accurately detects the eyes. In the existing system, this algorithm has replaced the traditional K-Nearest Neighbour [KNN] algorithm. The proposed CNN method has a high degree of accuracy and is the best algorithm for image processing. The Raspberry Pi uses a pi camera to detect the eyes and determine if they are open or closed using CNN algorithm. The precision, versatility, performance, and security of the image processing results have been demonstrated using the MTCNN algorithm. It greatly aids a sleepy driver in avoiding accidents caused by sleep, especially on long trips and late-night drives.

Energy and Trust Aware Binary Tree Based Mutual Node Authentication in WSN for Secured Cold Storage

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Abstract - Wireless sensor network consists of several sensor nodes that is distributed to monitor and collects the data in the environment. It plays a most significant role in environmental monitoring of cold storage systems. The monitored and gathered data is transmitted from one sensor node to another with a higher data security level. For improving the overall performance of data broadcasting among sensor nodes, the authentication process is carried. The data communication between the source and sink node is achieved in a secure manner. Here, different sensor nodes in the network are destination node. Different node registration and authentication process are introduced in the network for broadcasting the data packets among nodes. During the transmission of data packets, security is most essential to obtain optimal data transmission in the network. In addition, energy consumption and authentication accuracy are most important for efficient data communication and improves the security level of data.

Impact of Robotic Automation in Agriculture

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Abstract - Agriculture is the spine of society because it especially functions to provide food, feed, and fibber which all human relies upon to live. Precision agriculture is applied to apply sufficient remedies at the proper region inside the right time with the purpose to provide low-enter excessive-efficiency, and sustainable agricultural manufacturing. In precision agriculture, automation and robotics have turned out to be one of the foremost frameworks which that specialize in minimizing environmental impact and concurrently maximizing agricultural produce. The software of automation and robotics in precision agriculture is largely implemented for precise farm management through the usage of current technologies. inside the beyond a long time, a huge quantity of studies has focused on mobile robotics packages for agricultural operations, including planting, inspection, spraying, and harvesting. This paper evaluation the latest programs of automation and robotics in agriculture in the five years. in this paper, the latest implementations are divided into four categories which show special operations finished for planting control beginning from seed till the product is prepared to be harvested. towards the stop of this paper, numerous challenges and suggestions are defined to suggest the opportunities and upgrades to designing a green autonomous and robotics gadget for agricultural programs. Primarily based on the conducted evaluation, extraordinary operations have special challenges as a result require various answers to remedy the precise operational trouble. Similarly, the development price wishes to be fully considered to make certain that the farmers can be able to make investments in their capital as customer. Consequently, it becomes surprisingly viable for the self-reliant agricultural robot system to be broadly applied at some point in the world in the future.

RPA with Abrupt Sensors

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Abstract - The Internet of Things is only growing as the number of connected devices grows and the amount of Machine-to-Machine communication increases. It's begin adopted by many industries across numerous verticals and can be include for wearable devices, mobile devices, industrial equipment, intelligent business, and even smart homes. It's important to understand the Internet of Things is not just another industry buzzword. The global management consulting firm sees IoT developing in two main areas, especially as both

business and individuals move to embrace more interconnected futures. The first is improved "Information and Analysis", which results from the increased number of connections that the Internet of Things allow between products and business operations. That the company can, through the use of Sensors and Actuators, they travel within the chain or even monitor the products through Internet. With help of Ui PATH Application the Sensors are automated with the help of Desktop Recording and Web Recording. As a Result, all the Sensors are activated automatically, and the alerts will be sent through mails.

RPA with Machine Learning

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Abstract - Robotic Process Automation (RPA) is one of the smartest technology evolutions in recent years. It is a software installed on a system. RPA can be implemented in a well-defined environment with defined procedures and clarity with reference to decision making. RPA's limitation is that it cannot be automated if it involves decision making supported by knowledge-based application. ML can come to aid here. ML can build a knowledge base based on historical data and use it for decision making and prediction. Combining RPA with ML can create powerful automation solution in medical device domain. Specialized skills are required in the nascent area of ML. In clinical domain, ML requirements and the possible impact of ML-RPA combination. The concept of Robotic Process Automation, also commonly as RPA, has been one of the smartest technological evolutions in recent years. RPA effectively extends the age-old approach of screen scraping or User Interface (UI)-based test automation approach to automate business activities carried out by human users using computers, resulting in its own industry segment.

Revolution of Robotics and Autonomous System in Military: Risks and Milestone

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Abstract - The paper evaluates the military service of robotic and autonomous systems (RAS) and the risks and chance related with the development of robotics and use of this technology in a military service. The moment perspective is at five to ten years into the outlook and the possibility of the military application areas relates to land operations. No longer like previous labor shifts, this revolution is led with the beneficial resource of the advanced era collectively

with robotic technique Automation (RPA) and synthetic Intelligence (AI). Sincerely, those revolutionary developments have taken the attention of military forces and began a digital transformation. The paper outlines the main risks and opportunities associated with the development and military use of this technology from practical and societal perspectives. And also the paper justifies with required steps and need for the successful accomplishment of robotic and autonomous systems in the military.

Application of RPA in Cyber Security

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Abstract - Digitization in the business environment creates an opportunity for enterprises to speed up workflows and increase overall productivity while significantly reducing the number of unnecessary actions. Thus, digital data becomes more and more valuable so businesses have to ensure sensitive data does not fall victim to any type of cyber attacks, and that's where RPA is able to assist. It can be difficult for CEOs to go through a Google- plex of system and apps that are not perfectly compatible with each other. This results in employees having to manually gather data from multiple systems by copying it from one system to another and interchanging apps. In order to counter this, enterprises can implement Robotic Process Automation (RPA) to automate processes that reduce time detection and respond to incidents, thus minimizing risk exposure for incoming attacks. Thus implementation of RPA technology in cyber security gives an inquisitive glance of improvising the quality of the internet data by providing defense from viruses and unwanted attacks, ensuring Safety of sensitive information.

Artificial Intelligence Integrated with Robotic Process Automation for the Industry: Review

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Abstract - Enchanting into interpretation the technological evolution of the last decades and the proliferation of information systems in society, today we see the vast majority of services provided by companies and institutions as digital services. Industry 4.0 is the fourth industrial revolution where technologies and automation are asserting themselves as major changes. Robotic Process Automation (RPA) has numerous advantages in terms of automating

organizational and business processes. Allied to these advantages, the complementary use of Artificial Intelligence (AI) algorithms and techniques allows to improve the accuracy and execution of RPA processes in the extraction of information, in the recognition, classification, forecasting and optimization of processes. In this paper aims to present a study of the RPA tools associated with AI that can contribute to the improvement of the organizational processes associated with Industry 4.0. It appears that the RPA tools enhance their functionality with the objectives of AI being extended with the use of Artificial Neural Network algorithms in improving the operational and business processes of organizations.

Survey: Robotic Process Automation in Manufacturing Business

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Abstract - Robotic Process Automation has gone from being measured as brand-new technology to a vital one in today's market and supporting most of the scenarios and processes in various industries including manufacturing Concisely, RPA significantly delivers greater optimization advantages to the manufactures to enhance their competitive benefits, accelerate work, and reduce costs. RPA can be used in almost every domain in a business organization with ease and without affecting the existing system. Hence, in the near future, RPA will be widely used in different industries like Manufacturing, Big Data, Analytics and Legal. In the near future, All the data Input for the Agency will be automated. the role of RPA in manufacturing is to assemble, test or packing the products. The RPA was implemented in payment and refunding processes etc. The RPA is used in manufacturing in departments of Bill of Materials, Data Migration, Web integrated RPA. RPA can help enable manufacturers to improve productivity.

A Review Paper on Cloud Computing

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Abstract - Today is the era of cloud computing Technology in It Industries. Cloud computing which is based on Internet has the most powerful architecture of computation. Cloud computing is regarded as massively scalable, an on-demand configurable resources computing model and is one of the latest topics in the information sector. It offers the cloud infrastructure in a distributed rather than dedicated infrastructure where clients can have full access to the scalable, reliable, resources with high performance, everything is provided to

the clients as a utility service over the internet. In this paper, I have given a brief of evaluation of cloud computing.

RPA and Business Process Transformation

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Abstract - RPA is an application of technology, governed by business logic and structured inputs, aimed at automating business processes. Using RPA tools, a company can configure software, or a "robot," to capture and interpret applications for processing a transaction, manipulating data, triggering responses and communicating with other digital systems. RPA scenarios range from something as simple as generating an automatic response to an email to deploying thousands of bots, each programmed to automate jobs in an ERP system. BPM and RPA have something in common: The letter "P" stands for "process" in both acronyms. Business process management (BPM) has been around longer than Robotic Process Automation (RPA). But at their core, they both exist for the same reason - to improve how businesses operate, though in somewhat different ways. RPA provides organizations with the ability to reduce staffing costs and human error. Robotic Process Automation (RPA) is the latest business process automation technology, which is transforming business in an unbelievable way with software bots or the artificial workforce. RPA is transforming the core and manual processes inside an organization, and it is affecting the conventional ways we do business. Data entry and file transmission are two jobs that software robots could perform in place of humans. Increased productivity, efficiency, and adaptability help businesses. RPA and BPA can improve the effectiveness and productivity of a business's process. In comparison, both organizations rely on a variety of automated processes.

Robotic Process Automation- A Pedagogy

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Abstract - The Robotic Process Automation is one of the topmost emerging trends which upholds the technology in building, deploying software robots that compete with human activities. The RPA leads to emulate like people, the robot could defend as well as navigate systems and to identify as the humans do and performs wide range of activities. The main aim of robotics is to enrich the automation stream workflows that also make the organizations more profitable, flexible, engagement and providing the mundane tasks. The robotic process is a quick and easy way to streamline critical processes often extending the life of legacy systems. The robotic process is the intelligent system to provide cognitive process, so that they would perform the understanding of unstructured data applying advanced machine

learning models to make complex decisions. Just to reduce the human work the robotic process automation is done, it doesn't mean that the system could replace humans. It is done just to make humans to focus on best things as well enjoy more as well as to promote innovating, collaborating, creating and interacting with the customers for business process. The main objective of the robotic process automation is to increase the speed, accuracy, consistency, improved quality, and scalability of production. The automation also includes the extra security, especially sensitive data and financial services. The robotic process automation also creates an impact to the society which leads to benefit the society in various ways to adopt technology to move forward and to enhance the digital transformations to the next higher level. The enterprise gets a boost up they lead to higher productivity, efficiency, and resilience. The RPA is a state of work that is done as the rewriting or recreating the story of work with the betterment of the technological aspect and to reform the structured framework or unstructured framework in an effective manner. The Robotic process automation will immense the globe in future.

Robotic Process Automation in HealthCare–A Review

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Abstract - Robotic Process Automation (RPA) is a new revolution in technology and its basic goal is to reduce repetitive process from people's organizational tasks. Robotic process automation contains different types of technology together. RPA is a newly invented and speedy technology of Robotics. The researchers do lots of research on this criterion. This paper highlights the key concepts about RPA and defines its usage in the healthcare organization. Clinic expenses are increasing every year, the expected increase in the number of patients needs more medical staff. This situation affects the quality of medical care. On the other hand, the system tries to find solution to decrease the expenses, increase work efficiency, and provide good services to patients. And hence companies need help of robotic healthcare automation since it can allow them to automate all complex and time-consuming tasks. It has found advantages of using RPA in healthcare. Healthcare became one of the most demanding and challenging sectors especially due to the coronavirus pandemic. Each effort are directed to solving as many problems as possible. In case of healthcare, 30 percent of tasks can be automated. The use of RPA technology can be a great benefit as it can be used.

Robotic Process Automation and Business Process Transformation

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Abstract - Robotic process automation (RPA) emerges as a new technology which is focused on automation of repetitive, rule-based human tasks, aiming to bring benefits to the organizations that decide to implement such software solution. Since RPA is a relatively new technology available on the market, the difference between RPA and business process management is addressed. The paper provides the results of an overview of the RP definitions and practical usage as well as benefits of its implementation in different industries. The study finally discovered that Robots and Robotic Process Automation technologies are becoming compulsory as a part to do business operations in the organizations across the globe. Robotic Process Automation can bring immediate value to the core business processes including employee payroll, employee status changes, new hire recruitment and on boarding, accounts receivable and payable, invoice processing, inventory management, report creation, software installations, data migration, and vendor on boarding etc. to name a few applications. Besides, the Robotic Process Automation has abundant applications including healthcare and pharmaceuticals, financial services, outsourcing, retail, telecom, energy and utilities, real estate and FMCG and many more sectors.

RPA and IoT (Assisted Machine Learning Model for Warehouse Management)

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Abstract - In the digital world of today, any enterprise that deals with the amounts of data in Warehouse Management Systems (WMS) is an important component. Furthermore, the amount of data being raised and its complexity have become more challenging to maintain the WMS efficiency. Therefore, a device is required, which can manage such complexities autonomously with no human intervention. In this paper, Hybrid Machine Learning with the Internet of Things (HML-IoT) improves isolated doors. Furthermore, operating machine performance in the factory of hazardous goods. Decision- Making Algorithm (DMA) Data from the customer's holding space's dangerous goods warehouses shall be checked using separated doors. This paper's significant aspect is that inventory and inventory operation's organizational performance can be increased, further logistics costs minimized utilizing the fair use of isolated doors. Finally, the HML-IoT model integrated hazardous goods

warehouse with isolated doors has been contrasted with the current one, demonstrating that the previous one has greater efficacy.

Enhanced Recognition of Vehicles Number Plate using Image Processing Techniques: A Review

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Abstract - Technologies and services towards automation continues to revolutionize many aspects of human life. Hence automatic detection and recognition of number plate in vehicles are found to be a potential research area in the field of image processing. Vehicle number plate recognition is frequently used for parking management and speed limit enforcement systems. This technology prevents thefts, crimes and car-related accidents, etc. It is already contributing towards smart transportation systems and is eliminating the need of human intervention. Enormous methods are available to recognize the text inside the images and to convert it into an electronic form. These images could be handwritten, typed, documented etc, however this field is continually improving year after year. Hence this paper gives a detailed survey of various advanced image processing techniques available in the literature for the automated number plate recognition. The paper also presents the basic steps to recognize the number plate using the classical image processing techniques.

Survey Paper on RPA & Artificial Intelligence and its Applications

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Abstract - Robotic Process Automation (RPA) is a software robot that can copy human actions like movements, voice, Behavior etc. RPA tools are used to design and deploy these software robots. RPA can deliver the desired results without human interaction. Artificial Intelligences (AI) refers to machines that can simulate human intelligence. AI is based on "Thinking and Learning". Specific applications of AI include expert systems and natural language processing, speech recognition and machine vision.

A Comparative Study of RPA Tools and Implementation of UiPath

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Abstract - The everchanging 21st century has developed technologies that are at the forefront of every element of an organization. One of them which has emerged in the recent years is the Robotic Process Automation. It occurs when repetitive and basic tasks are automated through software or hardware systems that function across a variety of applications. This had a great impact on reducing labour costs and minimizing human error. RPA tools are a great help in configuring various tasks to get automated. Such as data entry, data extraction, report generation etc. These tasks are manually performed on the software by the employees in that organization and those tasks are automated by the bots. Some of the RPA Tools are UiPath, Blue Prism, Automation Anywhere, Pega, WorkFusion etc. These tools are used to create digital workers who are like virtual employees that enhance and augment human work by combining AI, machine learning, RPA and analytics to automate business functions from end to end.

Analysis of Robotic Process Computerization in Health Protection

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Abstract - Robotic process computerization is at times suggest as a mechanical programming. it is basically a computerization interaction that include fake intelligent. it is a specialized revolution and is pointed toward taking up redundant works from individuals. It is a quick-growing sub-domain in robotics. Many research works are going on this domain. It enables medical corporations enhance care and revel in of a affected person even as keeping all the prices down It offers us a clear work without any mistakes that can be made by human. It attempts to minimize all the possible methods to decrease prices and supply exact services to patients. It makes the quality of hospital therapy increase with the aid of its efficiency. This paper offers the clean perception of robot technique automation in health protection its benefits, future of robotics in fitness care and highlights its role in healthcare.

Robotic Process Automation – Literature Review

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Abstract - This document is about Robotic Process Automation. Which covers the growth of industry in 21st century. Robotic process automation (RPA) emerges as a new technology which is focused on automation of repetitive, routine, rule-based human tasks, aiming to bring benefits to the organizations that decide to implement such soft-ware solution. Since RPA is a relatively new technology available on the market, the scientific literature on the topic is still scarce. RPA definition is extended towards its conjunction with artificial intelligence (AI), cognitive computing, process mining, and data analytics. The introduction of advanced digital technologies allows RPA to be reallocated from performing repeti-tive and error-prone routines in business processes towards more complex knowledge-intensive and value-adding tasks It includes who invented this concept from which country, which country follow this concept, overall modernization industrialized concept.

A Review on Segmentation Analysis on Heterogeneous Interaction with Biosensors

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Abstract - Biosensors exhibit an immobilized unpresented level of interaction and ability to achieve the desired level of sensitivity and detection limit with analyte. The Analysis of unprecedented object and quantifiers even with every challenge images are performed even with unbounded region. The Biological sensitive elements combine biological component with physiochemical detector to achieve a desired level of accuracy with the concentrated samples. In many cases the data measured (sensogram)one for each analyte concentration depends with total time complexity. To maintain a strategy that first calculate a severance graph to reveal if there are any heterogeneous interaction. Biosensors applications include amperometry such as Blood glucose test strip, potentiometric biosensor ion sensitive such as fluorescence immune analyser.

Deep Learning based Modified Grey wolf Optimization Techniques for Pancreatic Tumor and Nontumor Classification Model using Segmentation Techniques

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Abstract - Pancreatic cancer is one of the deadliest types of cancer and its prognosis is extremely poor in the present scenario. Automatic pancreatic tumor image segmentation is often provided by computer-aided screening (CAD), diagnosis and quantitative evaluations in radiology images such as CT and MRI. Tumor classification through these methods can also help to track, predict and endorse customized therapy as a part of effective treatment, without invasions of cancer. Nowadays, neural networks (NN) have shown promising results for precise pancreatic image segmentation. In this paper, an effort is made to classify pancreatic tumour from non-pancreatic tumor using Modified Grey Wolf Optimization (mGWO) techniques. Proper image processing procedures and a classifier is utilized to segregate tumor from non tumor. After the pre- processing stage, smallest distance classifier is adopted towards noticing the tumorous part in the image. The experimental results show that mGWO can search out the optimal thresholds efficiently and precisely, which are very close to the result examined by exhaustive searches.

Evaluating the Deduplication Approaches using Hybrid Metrics

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Abstract - In this project, we present an extension on a hybrid-based deduplication technique in entity reconciliation (ER), by proposing an algorithm that builds clusters upon receiving a prespecified K number of clusters, and second developing a crowd-based procedure for refining the results of the clusters produced after the clustering generation phases. With the clusters refined, we aim to minimize the cost metric3′(R) of the solitary and compound cluster generation algorithms, to achieve an improved and efficient deduplication method, to have an increase in accuracy in identifying duplicate records, and finally, further reduce the crowd sourcing overheads incurred. In this work the experiments, we made use of three datasets commonly known to hybrid-based deduplication such as paper, product, and restaurant. The performance results and evaluations demonstrate clear superiority to the methods compared with our work offering low-crowd sourcing cost and high accuracy of deduplication, as well as better deduplication efficiency due to the clusters being refined.

Design and Implementation of Dynamic Selection & Transition in Relay Mechanism in Ad-Hoc Networks

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Abstract - In a tactical communication network (TCN), it is important during military operations to provide timely and accurate information transmission. Accordingly, mobility management plays a key role in supporting the mobility and connectivity of mobile nodes (MNs). In battled environments, the intermediate nodes (INs), such as a backbone node or an access node, can due to enemy attack be partially or completely damaged. In order to solve these issues, different distributed mobility management (DMM) schemes have been introduced. However, the existing DMM schemes do not offer any efficient solution to maintain the ongoing communication sessions of MNs associated with a destroyed IN. Therefore, in this project, we propose a robust mobility management scheme for TCNs. The proposed scheme not only enables the disconnected MNs to attach to a new IN, but by creating IP tunnels, also maintains their ongoing communication sessions. To evaluate the performance of our proposed scheme, we develop a physical test- bed environment. With the help of mathematical and experimental results, we show that the proposed scheme outperforms the legacy schemes in terms of service availability, network throughput, and packet arrival time.

Information Masking using Digital Keys for Sports Auction

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Abstract - We propose a novel approach for Masking using a reversible texture synthesis. A texture synthesis process re-samples a smaller texture image which synthesizes a new texture image with a similar local appearance and arbitrary size. We weave the texture synthesis process into masking with image to conceal secret messages using blow fish algorithm for encryption. In contrast to using an existing cover image to hide messages, our algorithm conceals the source texture image and embeds secret messages through the process of texture synthesis. This allows us to extract secret messages and the source texture from a stego synthetic texture. High volumetric data is embedded into bit-planes as low as possible to keep message integrity, but at the cost of an extra bit-plane encoding procedure and slightly changed compression ratio. The proposed method can be easily integrated into the JPEG2000 image coder, and the produced stego-bit stream can be decoded normally.

Artificial Intelligence in Security

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Abstract - Security robots are able to provide the highest level of security at the modest cost that is much lower than the wages of hired employees. Some of the security officers guarding a facility can be effectively substituted with security robots. Unlike people they do not become tired nor do they require time to rest. Either sun or nighttime cold does not cause any discomfort. It can reduce the human hourly wages. System based on robot can work independently throughout the facility. Robot currently cannot grapple physically with troublemaker or intruder. It leads human to lose their job and get unemployed. It includes high cost and constant power. As like human being resist their opponents, Robots should have the same facilities to resist back the troublemaker. By the mean of Humanized Robots, both the installation of cameras and fight against the opponents can occur. During battles a human depends on another human to resist their opponents, in case of incapability. But the robot has the power to defend itself and fight back with full force where it is not dependent on another human or robot. Installation of cameras can even be fixed in different places for a wide range ,but it cannot fight back the trouble-maker. So adding ability to fight back the trouble-maker, it can even do the watching process as well as fight against the trouble-maker.

Diabetic Prediction using Random Forest

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Abstract - WEKA is an open-source data mining tool is used for the analysis of dataset. Random forest is one of the classification algorithms in data mining. The diabetes.arff dataset used to execute this algorithm is a sample result dataset of a patient. This paper talks about the clear vision Random Forest algorithm with what it is, where we must use this algorithm and its benefits also algorithm performance with clear screen shot with explanations.

Food Time Detection using IoT

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Abstract - The project entitled "FOOD TIME DETECTION USING IOT" is an IOT framework that facilitates food monitoring for protection of the food, from being contaminated due to the environmental conditions and temperature. In the present scenario, the work done is in terms of the sensed value that has been recorded and a detailed analysis has been performed but automated controlled alternatives are not present. The proposed solution analyses temperature, moisture and light as these parameters affect the nutrition of food items like fruits and vegetables, and the analysis result will be sent to the user through a text message. A web server is used for storage of data values sensed in real time and also for analysis of results. Users are alerted via messages along with locations of the shipment whenever an emergency occurs in these solutions, heterogeneous sensors for various domains are employed for sensing the condition of food.

An SDN Based Load Balancing Routing Protocol with Dynamic Scheduling for Large Scale IoT Networks

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Abstract - Traffic prediction and utilization of past information are essential requirements for intelligent and efficient management of resources, especially in optical data centre networks (ODCNs), which serve diverse applications. In this project, we consider the problem of traffic aggregation in ODCNs by leveraging the predictable or exact knowledge of application-specific information and requirements, such as holding time, bandwidth, traffic history, and latency. As ODCNs serve diverse flows, we utilize Software Defined Network (SDN) for prediction of time-varying traffic and connection blocking in ODCNs. Furthermore, with the predicted mean service time, passed time is utilized to estimate the mean residual life (MRL) of an active flow (connection). The MRL information is used for dynamic traffic aggregation while allocating resources to a new connection request. Additionally, blocking rate is predicted for a future time interval based on the predicted traffic and past blocking information, which is used to trigger a spectrum reallocation process (also called defragmentation) to reduce spectrum fragmentation resulting from the dynamic connection setup and tearing-down scenarios. Simulation results show that ML-based prediction and initial setup times (history) of traffic flows can be used to further improve connection blocking and resource utilization in space-division multiplexed ODCNs.

Sharing Secret with Multi Party using Efficient Verifiable Threshold Algorithm

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Abstract - Secret sharing is one of the most important cryptographic primitives used for data outsourcing. The threshold-based secret sharing scheme is one of the well-known secret sharing schemes in cryptography. A single secret sharing scheme has low efficiency and multiple secret sharing schemes can greatly improve the efficiency of secret sharing. We present an efficient verifiable threshold multi-secret sharing scheme with different stages in which multiple secrets are shared among participants during one sharing process. In such away, some quailed subsets of participants can collectively recover these secrets. The verifiable nature means that the participant can verify his/her own share. Our proposed scheme can share secrets to multi participant and each has its own threshold access structure. Moreover, each participant only keeps one share, and however they can reconstruct all secrets in recovery stages. This scheme is a multi-stage-use secret sharing scheme, in which the size of the participant's share is the same as that of each secret and the amount of information disclosed reaches the optimal lower bound. Compared with the previous verifiable (t; n)-threshold multi-secret sharing scheme, this scheme is of stronger computational security and practicability.

Assisting Blind People to Fill Google Form using Robotic Process Automation

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Abstract - In this paper, we present in work in progress on the assistive system that would allow visually impaired people to use voice to text and text to voice to access the Google form using NLP (Natural Language Processing) and speech recognition. By tapping the volume button two times, the user can start this application. The user will next be given a speaker with which to voice out their desired features.

Fuzzy-Logic based Optimal Clustering Algorithm

for Extending the Lifetime of WSN

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Abstract - Extending the lifetime of the sensor node is one of the major challenging issues for the wireless sensor network. The WSN consists of wireless terminals that involve in monitoring hard cored environment with of different nature and parameter that differs based on the applications implemented. These networks with stable infrastructure is embedded with sensor nodes that used to sense a area of particular range and gather information and deliver it to the moderate controller named as cluster head. Here in this sensor network architecture sensor nodes are packed densely within a cluster and these entire cluster grouped together to form a wireless sensor network. These cluster heads aggregate the information and further move it to the central controller called as Base station or sink. Further analysis, processing of data will be done by sink and the action required will be initiated based on the report generated after analysis process. The energy usage by the sensors in each & every cluster to be managed efficiently in order to increase the survival time of each & every sensor node. To attain this efficient clustering algorithm to be developed which could perform cluster based operations effectively. Here in this paper we concentrates on designing a fuzzy logic based optimal clustering algorithm for energy efficient dynamic cluster head (CH) selection. This algorithm focuses on solving the position of ineffective usage of unbalanced energy among the cluster head. The simulation results reveal that the fuzzy based clustering algorithm extends the lifetime of WSN by outperforming the previously defined algorithms.

Efficient Attack Classification and Detection Mechanism for Wireless Sensor Network

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Abstract - Wireless sensor network (WSN) consists of sensor nodes. Deployed in the open area, and characterized by constrained resources, WSN suffers from several attacks, intrusion and security vulnerabilities. Intrusion detection system (IDS) is one of the essential security mechanisms against attacks in WSN. With the concern of this factor, in this work Efficient Attack Classification and Detection with Packet Transmission (EACDPT) system is designed wireless sensor network. Initially, the sensor nodes are clustered based on the distance and cluster head selection is done by using Binomial Probability Distribution based Chicken

Swarm Optimization Algorithm (BPD-CSO). Then the Dynamic key generation is done by using Improved Convolution based Elliptic-curve cryptography (ICECC) algorithm. The efficient congestion detection mechanism is used to detect the congestion in the entire WSN. The Improved Weight based Convolutional Neural Network (IWCNN) is introduced to perform classification (normal or attack). Once the attack (DDOS, Sybil and DDOS flooding attack) is found, an improved fuzzy clustering method is utilized for attack detection and packet transmission is performed.

A Molecular Study on Various Proteins using Different Pulses

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Abstract - Molecular Biology is the field of science (Biology) that involves the study of structure, composition and interaction of cellular molecules such as proteins etc.. In the recent years, substantial progress can be achieved only through molecular study by analyzing its structure, Composition and interaction in pulses etc.. However, this kind of study is very much limited. The main approach includes potential application of pulses Proteins, Pulses, Composition Pulses play a vital source of food proteins, the protein extracted from pulses can be used as protein products in several other ways. They contain very large amount amino acids like leucine, lysin, glutamic acid, aspartic acid, tryptophan etc.. They also contain some nutritional properties and functional properties which may help us in formulating food and it's processing. Pulses are edible crops of different plants in the legume family. They are grown in pods and come in different size, shape and colors. Pulses are crops which yield annually. Pulses are rich in nutrition. Pulses are not only edible but also promote agriculture, as they consume less water, increase the soil nutrition, and decreases greenhouse gases.

A Study on Applications of RPA in Manufacturing Industry

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*Abstract -*This paper deals about the applications and drawbacks of Robotic Process Automation (RPA) in Manufacturing Industry and the benefits of using Robotic Process Automation. The automation of back-office process and in Additive Manufacturing is also discussed in this paper. This paper also tries to review the Robotic Process Automation framework developed to ensure the reliable calculation of cost and time needed for the Additive Manufacturing (AM) process for a given Computer Aided Design (CAD) model with minimal human intervention.

Automatic Gate Control using IOT & RPA

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Abstract - Many software automation techniques have been developed in the last decade to improve customer satisfaction, and reduce errors. Robotic process automation (RPA) has become popular recently. IoT offers information gathering and physical world response capabilities. RPA makes it easy to automate processes based on data and commands from different systems. Combining these two technologies opens up many opportunities and an easy solution to link the physical world and the digital world. The primary aim of this paper is to learn in details about how the automatic gate system works and to understand the concepts involved. The main activity involved in this paper is how RPA and IOT work on automatic gate. The controller used is Smartphone that integrated by android program. The software used for this paper is Arduino program. The controller is linking with the software and hardware component.

An Efficient Classification of Soil Type using Deep Neural Network

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Abstract - Soil is an important and non-renewable source in this world. It is also the backbone of agriculture sector for the improvement of crop yield production. The classification of soil type helps the farmer to improve the growth of crops in earlier stage itself. In this paper, we proposed Deep Neural Network (DNN) classifier approach to classify the type with high performance and best accuracy. The model was trained and validated using LUCAS Dataset. Depending on the better performance of the proposed model, this helps in identifying the type of soil contents for improving the crop yield production in agricultural sector.

Robotic Process Automation – A Systematic Review

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Abstract - Robotic process automation (RPA) is a software technology that makes it easy to build, deploy, and manage software robots that emulate human sactions interacting with digital systems and software. Robotic process automation (RPA) is a form of business process automation technology based on metaphorical software robots (bots) or on artificial intelligence (AI)/digital workers. While RPA is valuable to furthering the overall path to digital transformation, it is best used as a short-term fix. To eliminate tactical band-aids and costly disruption, organizations need to focus on a long-term intelligent automation strategy. It is sometimes referred to as software robotics not to be confused with robot software.: RPA is the key to digital but it's not the whole picture.

Robotic Process Automation in Fabrication

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Abstract - Robotic process automation (RPA) is a software generation that makes it easy to construct, installation, and control software program robots that emulate people moves interacting with digital structures and software. Robotic Process Automation (RPA) is transforming the way agencies throughout one-of-a-kind industries do enterprise. It lets in companies to automate positive sorts of paintings procedures to lessen the time spent on expensive guide responsibilities and boom efforts to deliver challenge critical work. The manufacturing industry has seen industrial automation empowered by 'Physical Robots'. But there is a need for disruptive technology such as Robotic Process Automation in manufacturing that can help businesses to focus more on product innovation and core strengths instead of day-to-day repetitive tasks that are critical but lacking interesting nature. In this paper explore about Robotic process automation in Manufacturing.

Classification of Attention Deficit Hyperactivity Disorder (ADHD) using Deep Learning Approach

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Abstract - ADHD (Attention Deficit Hyperactivity Disorder) is psychological disorder found in some children and also a mental disorder which come across the problems related to attention, and hyperactivity. Effective discrimination of attention deficit hyperactivity disorder (ADHD) using imaging and functional biomarkers would have fundamental influence on public health. The ADHD-200 Global Competition provides an excellent opportunity for building a diagnostic classifier of Attention- Deficit/Hyperactivity Disorder (ADHD) based on functional MRI and structural MRI data. The proposed method is used to classify ADHD based on morphological information with using neuroimaging data. We used 150 structural MRI images of children from the publicly available ADHD- 200 MRI dataset. The data consisted of three types, namely, typically developing (TDC), ADHD- inattentive (ADHD-I), and ADHD-combined (ADHD-C). In addition, we found that the most important features for classification were the surface area of the superior frontal lobe, and the cortical thickness, volume, and mean surface area of the whole cortex. We also carried out feature selection by Independent Component Analysis and Deep learning methods to achieve good classification accuracy (90.3%).

RPA in Banking and Finance

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Abstract - The world is evolving into a digitally advanced environment. Transformation is a constantly evolving process where Robotic process Automation or RPA came into the process of renovation. RPA has recently become a valuable tool in banking and financial institutions. RPA has shown a lots of various benefits for different organizations. The primary intention of Robotic process Automation in banking is to reduce repetitive tasks in the bank. In banking and various other organizations, RPA has helped reduce the operational costs by 30%-70%; RPA helps reduce the workforce by employing Bot workers in charge,

which later saves the operating costs and increases efficiency and accuracy of the tasks. Lenders are regularly facing pressure to reduce the prices as well as to reduce and save time. Lender hence switches into automation bots, lenders can automate loan approval, loan monitoring, and automatic loan pricing. This can be achieved with the help of rule based software bots. Also, many of the lenders do some part of the process partially automated and some part manually. Banks and financial institutions are switching to automation and training to stay on top of the latest security developments. This helps to keep an eye on the evolving trends in the payment space. Fraud for instance, is an ongoing threat. All major finance domain are looking forward to implement the concept of RPA technologies. Which help in preventing the possible frauds and also helps in mitigating the other human errors. The paper talks about how RPA can mitigate fraud risks through various methods such as reassessing current processes, eliminating human errors, enhanced trade monitoring, automated threat detection, and searching for anomalies and much more.

Upsurge of Industry 4.0 by Combining Remote Process Automation, Artificial Intelligence and Internet of Things Technologies

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Abstract - The new wave of technological innovation in recent years implies revolution of Industry 4.0 those new technologies and fresh skills needed to restoration of the total invention line that allow companies to improve their flexibility, productivity and responsiveness in markets with global competition. Industry 4.0 is encompassed of numerous innovation families, among which both IoT (Internet of Things), Artificial Intelligence and RPA (Robotic Process Automation) are deliberated important levers of transformation and process improvement. The complementary use of Artificial Intelligence (AI) algorithms and techniques allows to improve the accuracy and execution of RPA processes in the extraction of information, in the recognition, classification, forecasting and optimization of processes. Whereas IoT offers information gathering and physical world response capabilities, Robotic Process Automation makes it easy to automate processes based on data and commands from different systems. Coalescing both the two technologies introduce many opportunities and an easy solution to link the physical world and the digital world.

Robotic Process Automation – A Case Study

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Abstract - Robotic process automation (RPA) - Applications of AI and RPA - How and why AI and RPA can be combined - How Robotic Process Automation & Artificial Intelligence Work Together - AI and RPA: What's the difference - RPA: Augmenting People with Process Automation - AI: Augmenting Automation with Artificial Intelligence - AI + RPA: Enabling End- to-End Automation - PROCESS OF RPA WITH AI - RPA Vs AI - How Artificial Intelligence makes RPA smarter: two use cases - Contracts, from email to ERP.

Robotic Process Automation (RPA) in Manufacturing Industry

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Abstract - Introduction: Robotic Process Automation is Taking automation efforts to the next level with Help Systems robotic process automation. Idea - promises to make restaurant standard meals without its owner having to lift a finger or order a takeaway. Food manufacturing with the help of RPA. It's going to shows the revolution in food manufacturing technology. The robotic food kitchen with the help of RPA. It is a bulk cooking process. Programming the recipes and methods of cooking will be followed to prepare the food.

RPA Based Digital Marketing

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Abstract - In the modern era of advertising, the role of marketing has increased exponentially. The marketing strategies of big brands nowadays highly rely on digital media. A new method of marketing known as digital marketing has now become the need of the hour for various brands and e-commerce platform. The proposed system will help such brands to reach out to

the end user more efficiently and frequently. The proposed system is based on the implementation of robotics process automation (RPA) which is a method used for deployment of software –based robots that mimic the functionalities of human operating a machine. These scripts were based on any suitable programming languages and were interfaced with front end applications program (APIs). In comparison to traditional process by the user for that process and mimics it by repeating those tasks precisely as represented by the user.

Robotic Process Automation for Auditing

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Abstract - Companies are racing to unlock value from the next generation of digital technologies, including digital labor, which has moved far beyond using macros on a spreadsheet. Robotic Process Automation (RPA)– one form of digital labor–involves the use of software robots to automate processes. These robots are easy to configure, require little IT expertise and can be quickly trained and deployed to automate manual tasks. They can perform activities such as copying and pasting data between applications, reconciling and cross- referencing data between different systems and conducting high-level decision-making at key points in the business process. RPA is even being used in more dynamic settings, including activities that involve direct interactions with customers and employees, such as processing customer insurance claims or setting up new employees with the right level of IT access. The impact of RPA on a company's operations and competitive positioning is significant on a number of fronts: economic value, workforce advantages, quality improvements, flexible execution, speed and agility.

Robotic Process Automation and Artificial Intelligence: An Overview

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Abstract - Robotic process automation (RPA) is a software technology that makes it easy to build, deploy, and manage software robots that emulate humans' actions interacting with digital systems and software. The impact of these automation processes on the modern and evolving world and evolving world. The RPA deliver Artificial Intelligence (AI) is the perfect complement to RPA, together providing more accurate and efficient automation powered by an informed knowledge base. AI is the process behind the effort to stimulate

human intelligence in machines, while RPA automates processes that use structured data and logic. So this paper on Robotic process automation (RPA) and artificial intelligence (AI) can provide many benefits that aid in the digital transformation of an organization.

A Review of Robotic Process Automation (RPA) in the Medical Field

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Abstract - Robotic Process Automation is a technical revolution. Robots have been progressively introduced into hospitals and other healthcare environments, because of the convergence of the techniques of Human–Robot Collaboration and the science of Artificial Intelligence. In general, these measures aimed to reduce transmission of the virus by reducing person-to-person contact, thereby slowing the spread of COVID-19 to a manageable rate that allowed for the care of cases by the national health systems. In this context, expectations and development of AI and robots received a new impetus, due to their ability to be used to reduce physical contact between people and thus, prevent the spread of the virus. Robotics are expected to not only perform repetitive, routine tasks in predictable environments, but are being deployed to collaborate with humans in a wide range of activities in non-controlled environments. With help of reliable network and information technology support healthcare telepresence for communicating without contact—which includes the use of tele-operation by doctors and nurses to interact with patients for diagnosis and treatment with the camera capturing facilities and Sensors. This paper presents a review of its usage in all important health care.

Applications of Intelligent Robotic Process Automation

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Abstract - It is sometimes referred to as software robotics (not to be confused with robot software). In traditional workflow automation tools, a software developer produces a list of actions to automate a task and interface to the back-end system using internal application programming interfaces (APIs) or dedicated scripting language. These tools also automate

interactions with the GUI, and often do so by repeating a set of demonstration actions performed by a user. In contrast, RPA systems develop the action list by watching the user perform that task in the application's graphical user interface (GUI), and then perform the automation by repeating those tasks directly in the GUI. Robotic process automation (RPA) is a form of business process automation technology based on metaphorical software robots (bots) or on artificial intelligence (AI) digital workers. RPA tools differ from such systems in that they allow data to be handled in and between multiple applications, for instance, receiving email containing an invoice, extracting the data, and then typing that into a bookkeeping system. This can lower the barrier to use of automation in products that might not otherwise feature APIs for this purpose. RPA tools have strong technical similarities to graphical user interface testing tools.

Robotic Process Automation in Banking and Finance

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Abstract - The do-more-with-less culture fostered by a slow economy is pushing enterprises to look for ways to boost productivity. This is especially true of the financial services industry where banks have to continually evolve to keep up with customer expectations and counter competition from fintech players. At the same time, banks are under pressure to optimize costs. Rising personnel costs, scarcity of skilled resources, and the need to increase productivity has set the stage for the adoption of robotic process automation (RPA). RPA represents the next wave of automation that will help address a slew of challenges in the financial services industry. This paper evaluates the application of RPA to banking processes, with specific focus on payment cards.

Robotic Process Automation in Life Sciences

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Abstract - Robotic Process Automation (RPA) is an artificial intelligence (AI) driven process along with machine learning capabilities to handle high-volume, process-oriented repeatable tasks that previously required a human to perform. RPA aims to manipulate existing application software in a non- invasive manner (e.g. ERPs (Enterprise resource

planning), CRMs (Customer relationship management), claim applications, etc.) and replace the repetitive non-value added tasks performed by humans, with a virtual workforce of robotic FTEs. It mimics user actions on the machine or application at UI level. Pharmaceutical sector has been working to close the gap between rising costs in different processes and profits in an environment of increasing regulatory control. They face challenges in securing approval and bringing new drugs to market with safety, efficacy, and profitability. The advent of RPA promises to change the game, by applying the "robots" to perform the high-volume, repeatable tasks which are presently handled by humans.

Robotic Process Automation and Cyber Security Applications

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Abstract - Robotic Process Automation (RPA) helps organizations to present cyber-security attacks and improves the cyber-security system by reducing the responsibility of manually performing various repetitive tasks. The Cyber-security refers to safeguarding the computer system or network from the various types of theft and damage to software, hardware or electronic data. Adopting Robotic Process Automation reduces the attack detection and response time of the system, with the help of automated detection and alert notification. The Robotic Process Automation helps Cyber-security teams to bridge its talent shortage gap. It also limits the involvement of If Security Pros and allows them to concentrate on high-cognitive tasks.

Robotic Process Automation and Internet of Things

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Abstract - RPA (Robotic Process Automation) attracts attention for productivity improvement of the business processing. However, there are few examples that applied RPA to consumer service system. It is caused by the fact that there is not common sense about an application development method based on RPA for consumer service system. The feature is

that we can add continuity, automation, and usability to consumer service system. We inspect an effectiveness of the basic model of RPA constitution by using consumer service system examples characterized by fusing IoT and AI that we worked on so far. Data gathering and actuator capabilities, IoT widens the use-case landscape for objects, machines, robots and factories. Robotic process automation, or RPA, is the use of software with artificial intelligence and machine learning capabilities to handle high-volume repeatable tasks that previously required humans to perform. RPA technology enables companies to automate manual processes across the enterprise using software robots, in turn reducing human error and saving money on labor.

Automation in Healthcare using RPA

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Abstract - Robotic Process Automation (RPA) is a new revolution in technology and its basic goal is to reducing repetitive process from people's organizational tasks. Robotic process automation contains different types of technology together. RPA is a newly invented and speedy technology of Robotics. The researchers do lots of research on this criterion. This paper highlights the key concepts about RPA and define its usage in the healthcare organization. Clinic expenses are increasing every year, the expected increase in the number of patients needs more medical staff. This situation affects the quality of medical care. On the other hand, the system tries to find solution to decrease the expenses, increase work efficiency, and provide good services to patients. And hence companies need help of robotic healthcare automation since it can allow them to automate all complex and time-consuming tasks. This paper has found advantages of using RPA in healthcare. Healthcare became one of the most demanding and challenging sectors especially due to the corona virus pandemic. Each and every effort are directed to solving as many problems as possible. In case of healthcare, 30 percent of tasks can be automated. The use of RPA technology can be a great benefit as it can be used.

Robotic Process Automation in Life Sciences

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Abstract - The Electronic Healthcare Records (EHR) is a longitudinal electronic record of patient health information generated by one or more encounters in any care delivery setting. The information included in the type of records can be progress notes, problems, medication, vital signs, medical history, laboratory data, radiology reports and much more. The usability of an EHR is crucial to achieve success, as well as guaranteeing a high level of safe and effective level of patient care system. Therefore, it is important for care providers to take steps to ensure that their EHR will be usable. Aiming to assess the usability of the EHR, a usability evaluation was performed. This paper describes how two usability evaluation methods (Heuristic walkthrough and Surveys) were used to evaluate its usability. With those evaluations, it was able to recognize the level of usability present in the EHR, along with the usability issues that can be disposed. Electronic Healthcare Record (EHR) Systems dominate healthcare industries in many countries. In the United States, the Obama administration promotes EHR through a significant incentive program. This paper shares two important lessons that the majority of stakeholders should have learned as of now, toward its last phase: significant administrative overhead and understatement of open-source technologies, and proposes a modern, lean deployment of EHR systems with a positive use of open-source technologies as a better alternative. We believe that this lean deployment should resolve currently confronting financial and administrative issues while sustaining quality healthcare with its suppressed cost. Currently the Electronic Healthcare Records (EHRs) systems market has gained importance in healthcare systems. This paper presents an analysis of the level of implementation and the evolution of numerous commercial and Open-Source EHR systems in use now. We began the review by searching Medline terms such as EHR, "Commercial Electronic Healthcare Records" and "Open-Source Electronic Healthcare Records". We identified providers and users from the different solutions and contacted them to obtain more information. The most important international barrier to the adoption of EHR systems is economic resources. The wealthiest countries opt to implement their own EHR systems. The commercial applications that currently have the greatest number of registered users are Clinical works, Care Tracker and all Scripts Professional, all belonging to U.S. companies.

Robotic Process Automation in Health Maintenance System

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Abstract - Robotic Process Automation (RPA) is a new revolution in technology and its basic goal is to reduce repetitive process from people's Organizational tasks. Robotic process automation contains different types of technology together. RPA is a newly invented and speedy technology of Robotics the researchers do lots of research on this criterion. This paper highlights the key concepts about RPA and define its usage in the healthcare organization. Clinic expenses are increasing every year, the increase in the number of patients needs more medical staff. This situation affects the quality of medical care. On the other hand, the system tries to find solution to decrease the expenses, increase work efficiency, and provide good services to patients- And hence companies need help of robotic healthcare automation since it can allow them to automate all complex and time-consuming tasks. This paper has found advantages of using RPA in healthcare; Healthcare bearing one of the most demanding and challenging sectors especially due to the corona virus pandemic- Each and every effort are directed to solving as many problems as possible. In case of healthcare, 30 percent of tasks can be automated. The use of RPA techno low can be a great benefit as it can be used.

Robotic Process Automation and Business Process Transformation

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Abstract - Robotic process automation (RPA) is a form of business process automation technology based on metaphorical software robots (bots) or on artificial intelligence (AI)/digital workers. It is sometimes referred to as software robotics (not to be confused with robot software). Business process automation (BPA) is the use of software to automate repeatable, multistep business transactions. In contrast to other types of automation, BPA solutions tend to be complex, connected to multiple enterprise information technology (IT) systems, and tailored specifically to the needs of an organization.

RPA in Health Care Industry – A Review

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Abstract - Robotic Process Automation (RPA) is a new revolution in technology and its basic goal is to reducing repetitive process from people's organizational tasks. Robotic process automation contains different types of technology together. RPA is a newly invented and speedy technology of Robotics. The researchers do lots of research on this criterion. This paper highlights the key concepts about RPA and defines its usage in the healthcare organization. Clinic expenses are increasing every year, the expected increase in the number of patients needs more medical staff. This situation affects the quality of medical care. On the other hand, the system tries to find solution to decrease the expenses, increase work efficiency, and provide good services to patients. And hence companies need help of robotic healthcare automation since it can allow them to automate all complex and time-consuming tasks. This paper has found advantages of using RPA in healthcare. Healthcare became one of the most demanding and challenging sectors especially due to the corona virus pandemic. Each and every effort are directed to solving as many problems as possible. In case of healthcare, 30 percent of tasks can be automated. The use of RPA technology can be a great benefit as it can be used.

Breast Cancer Prediction using Machine Learning

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Abstract - Women are seriously threatened by breast cancer with high morbidity and mortality. The lack of robust prognosis models results in difficulty for doctors to   prepare a treatment plan that may prolong patient survival time. Hence, the requirement of time is to develop the technique which gives minimum error to increase accuracy. Four algorithm SVM, Logistic Regression, Random Forest and KNN which predict the breast cancer outcome have been compared in the paper using different datasets. All experiments are executed within a simulation environment and conducted in JUPYTER platform. Aim of research categorises in three domains. First domain is prediction of cancer before diagnosis, second domain is prediction of diagnosis and treatment and third domain focuses on outcome during treatment. The proposed work can be used to predict the outcome of different technique and suitable technique can be used depending upon requirement. This research is

carried out to predict the accuracy. The future research can be carried out to predict the other different parameters and breast cancer research can be categorizes on basis of other parameters.

A Study on MRI Brain Tumor Prediction using Data Mining Techniques

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Abstract - Data Mining is a growing field of research that intersects with many other field like AI , Statistics, Visualization, Parallel Computing and Image Processing. Now days, brain tumour detection has turned up as a general causality within the realm of health care. the method of Image segmentation is adopted for extracting abnormal tumour region within the brain. Within the MRI, segmentation of brain tissue holds very significant so as to spot the presence of outlines concerning brain tumour. With appropriate use of accurate data processing classification techniques, early prediction of disease is often effectively performed. During this paper we present a summary of the present research being administered using the info mining techniques for the diagnosis of brain tumour. The goal of this study is to spot the foremost well performing data processing algorithm used on medical brain on medical brain MRI and clinical parameters.

RPA in Medical Care

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Abstract - Robotic Process Automation (RPA) is a industrial revolution within the offing and is aimed at taking up the mundane and repetitive tasks from people's daily workload. Medical Care industry in any country is one of the largest sectors, when it comes to revenue generation and employment. In this paper, the key aspect is about RPA and its usage in the all-important Medical care domain. RPA solution in the front and the back office allows Medical care providers to offer a higher quality of customer service. Medical care industry can benefit appointment scheduling, medical insurance claims management, medical data structuring and optimum care delivery from RPA.

Red Wine Quality Analysis using Machine Learning Techniques

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Abstract - As a subfield of Artificial Intelligence (AI), Machine Learning aims to understand the structure of the data and fit into models. Machine learning is a field of study that looks at using computational algorithms to turn empirical data into usable models. The machine learning field grew out of traditional statistics and artificial intelligence communities. Which later can be used in unseen data to achieve the desired task? Inspired by the success of ML in different sectors. The story of wine is that of medicine, religion, war, discovery, science and dream. Wine classification is a difficult task since taste is the least understood of the human sense. A good wine quality prediction can be very useful in the certification phase, since currently the sensory analysis is performed by human tasters, being clearly a subjective approach. The aim of this project is to predict the quality of wine on scale of 0-10 given a set of features as inputs. We use it to predict the wine quality based on various parameters. Among various ML models, we compare the performance of Linear Regression, logistic regression, k neighbors classifiers, decision tree classifier, random forest classifier. Various performance measures are calculated and the results are compared among training set and testing set and accordingly the best out of the five techniques depending on the training set results is predicted. Among various machine learning techniques random forest classifier was able to achieve maximum accuracy.

Robotic Process Automation, Artificial Intelligence and Machine Learning

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Abstract - Robotic process automation (RPA) is the use of software with artificial intelligence (AI) and machine learning capabilities to handle high-volume, repeatable tasks that previously required only humans to perform. In short, there is at least a problem with traditional Business Process Management (BPM) systems, as they cannot suggest the best combination of tasks, people and timings, which can increase the benefits of running them, while reducing the costs and risk factors. Yet, it is an irrefutable fact that the current business environment is highly dynamic. On the one hand, we need to be more efficient to execute what is operational and obvious, releasing scarce resources for more critical areas. Then, dealing with business process management and automation, a common claimed benefit is

associated with the improvement of performance. In addition to this and other potential benefits, we also highlight some potential operational risks from the adoption of AI-based systems like RPA. The acceleration in the business context makes it more difficult to predict what changes will occur and how they can affect the technological solutions used in the increasingly automated business processes. We point out the fact that immature or not well-trained models can eventually decrease productivity and increase errors from unsupported or even wrong decisions. We present a case study in the banking sector, which illustrates some examples of benefits and risks arising from BPM solutions that use AI agents/artifacts.

Robotic Process Automation in Health Protection System

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Abstract - Robotic Process Automation (RPA) is a new revolution in technology and its target is to reducing repetitive process from people's organizational tasks. Robotic process automation contains different types of technology together. RPA is a newly invented and speedy technology of Robotics. It brings a new criterion of research to the research community and lot many research works are blooming in this sector. This paper highlights the key aspects about RPA and define its usage in the healthcare organization. Medical outlay are increasing every year, the expected increase in the number of patients needs more medical staff. This condition affects the quality of medical care. On the contrary the urge of finding solution to decrease the amount, increase work efficiency, and provide best services to patients brings companies need of robotic healthcare automation since it can allow them to automate all complex and time-consuming tasks. This paper shows the advantages of using RPA in healthcare. Healthcare became one of the most demanding and challenging sectors especially due to the COVID-19 pandemic. The use of RPA technology can be a great benefit as it can be used easily.

Technological Innovation for Startup Enterprise and Development by using the Internet of Things & its Applications

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Abstract - Technological Innovation, Entrepreneurship, & Strategic Management (TIES) embraces two areas: the organization, development, and commercialization of technology-based innovation in existing firms; and the formation, development, and growth of technology-based new enterprises. Technological innovations result when new rules and

ideas find practical use through being applied and/or commercialized by entrepreneurs. Today we live in a technological 'age' and global economy where competition has become knowledge-based. In modern theories of growth and development technological innovation has taken the center stage. Our love for novelty and new gadgets is thus based on practical and theoretical foundations with the assistance of IoT. Moreover, there is growing interest in the relationship between technological innovation (and entrepreneurship) and how it can promote global growth and development. By assistance of the IoT, there is a tool that simplifies wiring together the IoT becomes incredibly valuable. There are several emerging development tools that are making fixtures, Automation, Robotics, and other new innovations by the IoT much simpler and quicker. organizations can spend less time on development and more time getting insight from IoT data. In many cases, small businesses must compete against one another to gain market traction and ensure growth on top by utilizing the latest technologies.

Education in Robotics

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Abstract - Students studying the field of robotics need to have both practical and theoretical knowledge in various areas. These areas include understanding sensors, 3D space, transforms between coordinate frames and interpreting point cloud data. A great tool for them to gain the necessary experience is an interactive screen. It is an HMI (Human-Machine Interface) that makes the topic even more interesting. A state-of-the-art 3D sensor commonly used by the robotics community is used. This sensor is placed above the screen and rotated in order to sense human activity in front of the screen. They need to design and verify necessary mathematical formulas and test their solution. Next, they learn to work with point-cloud data. They must detect the closest person standing next in front of the screen. They can achieve this by computing the plane equation of the floor in combination with interpreting the data from the perspective of the coordinate frame of the screen. Next, they learn about thresholding operations within the scanned point-cloud. Completing this project gives students the necessary knowledge for more sophisticated robotics' applications, especially in the field of HRI (Human Robot Interaction).

The Development of Robotic Process Automation for Efficiency of the Process

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Abstract - Achieving operational efficiency is a concern for the financial institutions especially banks. Robotic process automation is software that can be used to automate repetitive, rule-based processes. The revolution of technology is often emphasized in any organization for them to remain competitive in the market. Among the latest technologies is Robotic Process Automation (RPA) which can mimic humans and take over their tasks. However, implementing RPA can turn into something complicated and challenging if it is implemented without proper strategic planning. Hence, this study aims to understand how to do proper planning in a successful Robotic Process Automation (RPA) project. This study uses an in-depth case study approach in one of the largest oil and gas organizations that provides F&A services. The result of the study showed that an effective RPA project should have careful planning as well as a realistic project planning timeline. The project timeline is very important to ensure that the project remains transparent and organized. Besides that, clear communication is very important to employees so that they can accept the changes that are taking place. It is also important for the employee to receive strong support from the management and information technology department for a successful implementation of the RPA project.

A Study on Kofax in Industry 4.0

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Abstract - Robotic Process Automation is an emerging technology which specifies a software-based solution for automating rule-based business processes encompassing repetitive operations and structured data. We acknowledge that the vast bulk of digital services provided by businesses and institutions. Industry 4.0 refers to the fourth industrial revolution, which is characterized by significant advancements in technology and automation. The RPA has more number of features when it comes to automating the corporate processes. In addition to these benefits, the application of artificial intelligence algorithms and techniques in combination with RPA workflows to improve the efficiency and execution of information extraction, recognition, classification, and process optimization. In this context, the main aim of this paper is to provide a study on the RPA tool namely Kofax which is combined with AI model that can help to implement and automate the process of Industry 4.0 applications.

A Study on Robotic Process Automation : Healthcare

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Abstract - In recent years healthcare industry faces various challenges in managing levels of inventory, supporting the digitization of patient files, optimizing appointment scheduling, executing billing and claims processing. Healthcare businesses are fraught to decrease costs, boost the pace of operations, simplify jobs, improve the efficiency of business processes, and improve the patient experience. Robotic Process Automation (RPA) comes as an efficient solution for healthcare organizations to extend their efficiency and supply better medical treatment for their patients. RPA will automate a range of complex duties for medical professionals and administrators in hospitals and clinics as soon as it is offered in healthcare. The Healthcare industry can reduce costs, limit the occurrence of errors, and improve operational efficiency with the assistance of RPA. RPA can empower the healthcare domain in terms or intelligent tools extracting relevant information from several sources, partner ecosystems, EHRs, finance systems, payer portal systems, and accounting systems. This paper highlights the utilization cases of RPA in healthcare, their benefits, and also the scope of RPA within the healthcare industry.

A Study on RPA and Process Mining

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Abstract - Robotic Process Automation (RPA) is a technique for performing high-volume, repeated activities that replicates how humans interact with software. RPA technology develops bots or software programmes that can log into applications, enter data, compute and finish tasks, and copy data between applications or workflows as needed. Process mining is an analytical discipline for discovering, monitoring, and enhancing processes as they are, rather than as they might be. Process mining is a technique for analysing the present status of business process performance, identifying opportunities for improvement, and evaluating the outcomes of process changes. When you have a process map defining the actions taken by human employees, the process of installing bots becomes considerably easier. The RPA bot has to process the business process performance easy to use. This paper studies the difference between Process Mining and Data Mining, Connection of Process Mining in RPA, Applications of RPA in Process Mining,
RPA challenges in process mining.

A Study on Intelligent Automation : The Future of Human - Bot Interaction

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Abstract - Artificial intelligence (AI) and robotic process automation (RPA) are two of the world's most disruptive technologies. Intelligent automation is the use of AI, machine learning, business process management and process automation to create smarter processes. The integrative use of artificial intelligence (AI) algorithms and techniques allows improving the precision and implementation of RPA processes in the extraction of information, recognition, classification, *forecasting and optimization. Intelligent Automation integrates RPA's task execution with autonomous process discovery and process analytics' machine learning and analysis capabilities, as well as cognitive technologies like computer vision, Natural Language Processing, and fuzzy logic. Business and IT teams can increase process efficiency, improve customer experience, optimise back office operations, reduce costs, optimise productivity, monitor processes and detect fraud using these technologies. This paper discusses the benefits of intelligent automation, its difference from traditional RPA, use cases, scope, limitations and challenges.

Analysis of Robotics Process Automation

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Abstract - This paper presents the designing a robot, which has freedom of movement along all the 3 axes and its motion is controlled by means of wheels. The user can control the movements using a mobile from a remote place. The system is made more useful by introducing artificial intelligence to it. By artificial intelligence we mean designing the robot is such a manner that institution which require decision making, the robot identifies the presence of the obstacle, alerts the user and more over awaits instruction from the user for the action. Other condition, which the robot can determine, is presence of the fire i.e., high temperature and presence of metals in vicinity. In this paper present benefits and challenges of Robotic process Automation.

RPA and Cyber Security for SOAR Products

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Abstract - Cyber security automation helps to reduce the volume of threats and allows for faster prevention of new and unknown threats. Technology is always improving and so are automation practices. By the same token, cyber criminals are also improving their techniques, especially when it comes to financial cyber incursions. Industry experts refer to new automation tools as Security Orchestration Automation and Response (SOAR) products, composed of RPA, custom-developed software, and code that automates processes and performs analyses. SOAR products work alongside other security tools and carry out specific tasks in response to known cyber threats. RPA tools have a wider variety of processes to be automated. Custom-developed software and code can automate every analysis and often is used for fixing a unique challenge within an organization. SOAR, RPA, and custom-developed software gather data intelligence, perform analysis, and either take automated action or alert an employee to take further action.

Robotics Process Automation (RPA) Applications in Life Sciences

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Abstract - The Challenge Life sciences companies have many regulatory responsibilities, including the obligation to document and maintain consumer feedback on the safety and efficacy of their products at this life sciences company, that obligation was increasing exponentially, with the volume of individual case safety reports (ICSRs) doubling year over year. RPA allows automation to take over manual tasks, enabling people to shift their attention to higher value. We introduced Robotic Process Automation (RPA) at a major life sciences firm, improving efficiency, consistency and quality. Life sciences companies have many Regulatory responsibilities., including the obligation to document and maintain consumer on the safety and efficacy of their products. A major firm saw that obligation increasing exponentially, with the volume of Individual Case Reports (ICSR) doubling year of year. The company asked Cognizant examine its largely manual process and design automated solution. We saw an opportunity to introduce RPA, which proving to be extremely effective in environment that rely on manual. At a Glance. Major life sciences company wanted to automate a highly manual process that had become a quality-control risk and a regulatory burden. We built an RPA solution that addressed the immediate issues and will be leveraged in other parts of the organization. Our solution is a first In the area of pharmacovigilance process. Outcomes 1.Reduced end to end cycle time by 30% .improved

first time accuracy from 85% to 99%. Improved regulatory compliance from 95.7% to 96.12% Improved turnaround time compliance.

Social Innovation in Education using RPA

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Abstract - Robotic process automation (RPA) provides a virtual work force to automize manually repetitive and error prone task. The robots, despite being commercially accessible for multiple functionality and in different modalities and in different modalities are still and innovative topic and represent great opportunities for research and development education and culture of the society. In this article, the use of RPA robot is developed and proposed as a resource to support teaching process. Education institution must adopt these technologies in order to promote digital skill development and empower students to lead active and creative digital lives.

Artificial Intelligence and Robotic Process Automation and in Industry 4.0 - A Periodical Review

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Abstract - The scientific growth of the last decades and the explosion of information systems in humanity, the most popular of services presented by corporations and organization as digital services. Industry 4.0 is the fourth industrial rebellion where technologies and computerization are emphasizes themselves as foremost changes. Robotic Process Automation (RPA) has plentiful advantages in terms of computerizing organizational and business processes. Associated to these merits, the corresponding use of Artificial Intelligence (AI) algorithms and techniques agrees to progress the exactness and execution of Robotic Process Automation progressions in the origin of information, in the recognition, categorization, forecasting and optimization of processes. In this context, this paper aims to describe a study of the RPA tools connected with AI that can give an improvement of the organizational processes associated with Industry 4.0. It emerge that the RPA tools improve the functionality with the objectives of AI being extended with the use of Artificial Neural Network algorithms, Text Mining techniques and Natural Language Processing techniques

for the mining of information and consequential process of optimization and of forecasting situations in improving the functional and business progression of organizations.

Robotic Process Automation Technical and Industrial Structured Mapping Study

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Abstract - The automation of robotic processes has been experiencing an increasing trend of interest in recent times. However, most of literature describes only theoretical foundations on RPA or industrial results after implementing RPA in specific scenarios, especially in finance and outsourcing. This paper presents a systematic mapping study with the aim of analyzing the current state-of-the-art of RPA and identifying existing gaps in both, scientific and industrial literature. Firstly, this study presents an in-depth analysis of the 54 primary studies which formally describe the current state of the art of RPA. These primary studies were selected as a result of the conducting phase of the systematic review. Secondly, considering the RPA study performed by Forrester, this work 14 of the main commercial tools of RPA, based on a classification framework defined by 48 functionalities and evaluating the coverage of each of them. The result of the study concludes that there are certain phases of the RPA lifecycle that are already solved in the market. However, the Analysis phase is not covered in most tools.

Robotic Process Automation Cyber Security for Business Process Management

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Abstract - Robotic Process Automation (RPA) helps organizations to prevent cyber-security attacks and improves the cyber-security system by reducing the responsibility of manually performing various repetitive tasks. Cybersecurity aims to protect the computers, networks, and software programs from such cyber attacks. Most of these digital attacks are aimed at accessing, altering, or deleting sensitive information; extorting money from victims; or interrupting normal business operations. Robotic Process Automation (RPA) is designed to help primarily with office-type functions that often require the ability to do several types of tasks in a specific order. It creates and deploys a software robot with the ability to launch and operate other software. Cyber -Security as become a critical component of business infrastructure in our ever-connected world. Robotic process automation (RPA) is technology or software that is used to mimic the actions of a human being who is interacting with digital systems. Computer software or robots are configured to work or imitate how people interact with the systems used for business processes.

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