MES COLLEGE OF ARTS, COMMERCE AND SCIENCE
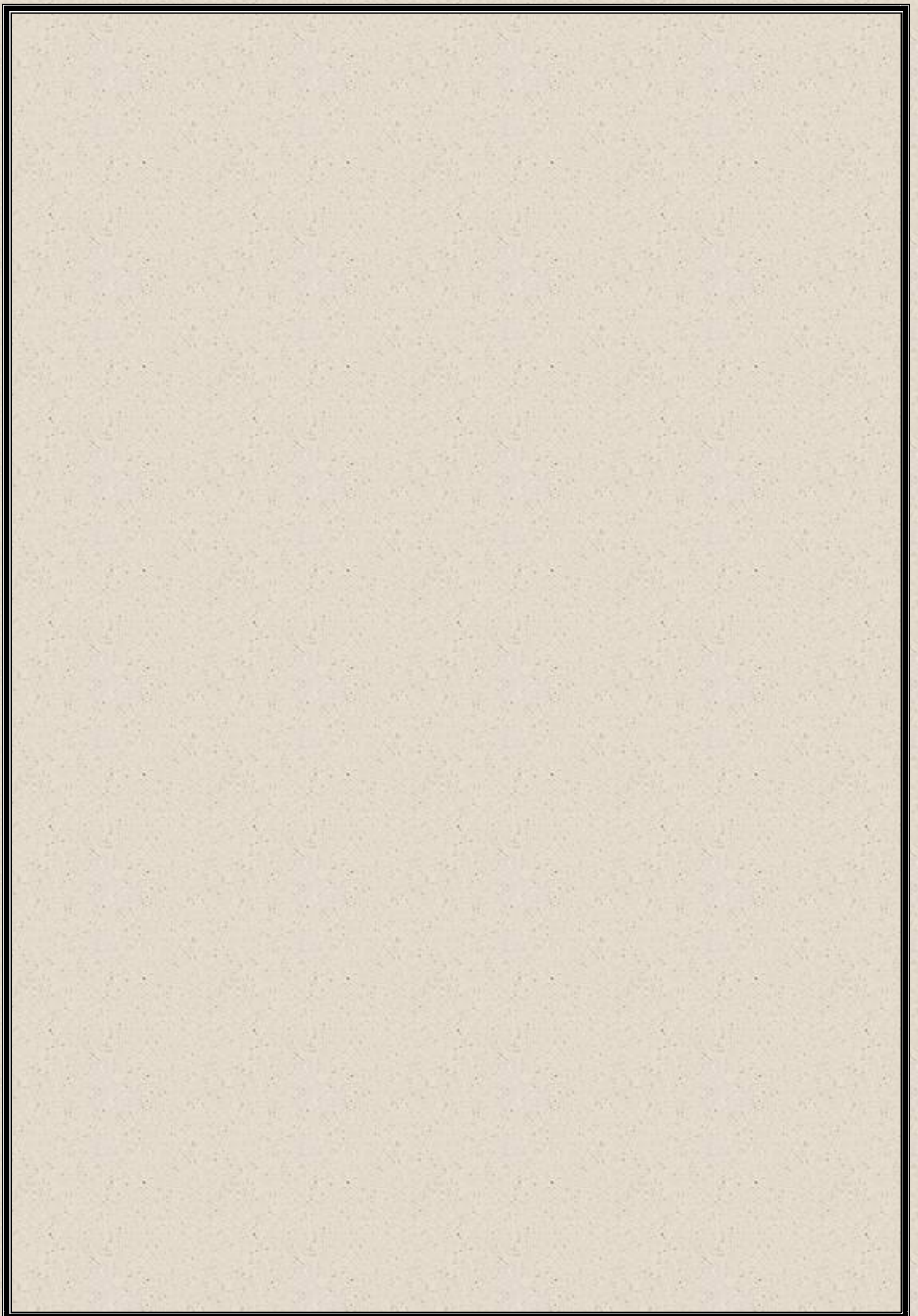

DEPARTMENT OF COMPUTER SCIENCE

Presents

AAKRITI

Computer scientists have opportunity to solve complex problems and create innovative solutions that makes a real difference in the world

(2022-2023)

PRINCIPAL MESSAGE

Artificial Intelligence (AI)and Machine Learning (ML) have undoubtedly been the game changers in terms of emerging technologies that are fueling digitization globally. A rapid transformation is evident in various domains like financial services, healthcare and life sciences, automotive innovation, robotics, customer experience, image processing, manufacturing, retail, travel and hospitality etc. The use of these technologies has led to improved operational efficiencies and accuracy with optimum use of resources.

The management of Mysore Education Society and the faculty of the institution recognize the need to provide opportunities to students to enable them to learn about the emerging technologies which is one step towards industry-preparedness. In this pursuit, the contribution of write-ups and articles about AI and ML as a compilation for the newsletter – Aakrithi is a highly appreciative endeavor. I am very happy that the newsletter is being released by the department of Computer Science in the year 2023. I sincerely wish that the students gain knowledge and are motivated to choose a career path to be at the frontier of technological changes in future.

DR. D. USHARANI

PRINCIPAL

HOD MESSAGE

It gives me an immense pleasure in bringing out the annual departmental e-magazine" Aakriti".

"Learning is a continuous process from the minute we are born, until we die."

Department of Computer Science, MES College provides a platform for every student to develop their learning skills through magazine. It is the talent and outcome of our students, which is reflected through this magazine. Our magazine is balanced collection of technical activities, departmental activities, academic achievements etc.

In today's automation world, we are using many tools of AI in our day- today life. Hence, this year's theme is decided as "Artificial Intelligence-its applications". Students are encouraged to give the PowerPoint presentations on the AI Tools and write a summary of the same. Hope you all enjoy reading this e-magazine.

I take this as opportunity to thank our DAC expert Dr. Suresh for his valuable suggestions, our Management, Principal, Vice Principal and all the faculty members for their incessant inspiration and kind support. I congratulate all my colleagues and students of the department for bringing this edition of e- magazine.

Wishing you all the best!!

C. SAI SUDHA

HOD OF COMPUTER SCIENCE

THE EVOLUTION OF ARTIFICIAL INTELLIGENCE IN MILITARY

Introduction

Artificial Intelligence (AI) has rapidly advanced across various domains, and its integration into the military has revolutionized the way armed forces operate. With its ability to process vast amount of data, learn from patterns, and make decisions, AI is transforming the face of warfare. This article explores the impact of AI in the military, highlighting its benefits, challenges, and ethical considerations.

Enhanced Situational Awareness and Decision Making

One of the primary advantages of AI in the military is its ability to enhance situational awareness. AI systems can analyse multiple data sources, such as satellite imagery, sensor data, and social media feeds, to provide real-time insights and intelligence. This capability allows commanders to make better-informed decisions swiftly, enabling proactive responses to threats and improving operational efficiency.
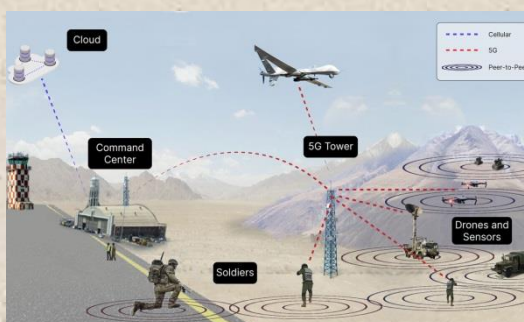
Autonomous Systems and Robotics

AI-powered autonomous systems and robotics have emerged as key players in modern military operations. Unmanned Aerial Vehicles (UAVs), also known as drones, equipped with AI algorithms can perform reconnaissance, surveillance, and targeted strikes with precision. These systems reduce risks to human personnel, enhance operational capabilities, and provide persistent surveillance in changing environments.

Logistics and Supply Chain Management

AI plays a significant role in optimizing logistics and supply chain management for the military. Machine learning algorithms can analyse historical data to forecast demands streamline inventory management, and minimize wastage. Intelligent routing algorithms ensure efficient allocation of resources, reducing costs and improving operational readiness. These AI-driven systems can also enhance maintenance schedules, preventing equipment failures and minimizing downtime.

Cybersecurity and Information Warfare

As technology advances, so do the threats in cyberspace. AI can aid in detecting and responding to cyber threats by analysing vast amounts of data to identify anomalies and patterns associated with cyberattacks. Machine learning algorithms can improve the speed and accuracy of identifying potential vulnerabilities and predicting future attacks. Moreover, AI enables the development of offensive capabilities, such as automated malware analysis and autonomous countermeasures, to combat adversaries in the digital domain.

Ethical Consideration and Challenges

The integration of AI in military operations presents unique ethical considerations and challenges. One significant concern is the potential for autonomous weapons systems to make life-or-death decisions without human intervention. Striking the right balance between autonomy and human control is crucial to ensure accountability and adherence to international laws.

Another challenge is the potential for adversaries to exploit AI systems. Adversarial attacks can manipulate AI algorithms and compromise their integrity, leading to misleading intelligence or tampering with autonomous systems. Safeguarding AI technologies against such attacks requires constant vigilance, robust cybersecurity measures, and ongoing research and development.

Furthermore, issues surrounding privacy and data security arises due to the vast amount of data collected and processed by AI systems. It is essential to establish certain protocols and guidelines for data usage, storage, and sharing to protect sensitive information and ensure compliance with legal and ethical standards.

Conclusions

AI is reshaping military operations, introducing new possibilities and challenges. From enhancing situational awareness and decision-making to autonomous systems and logistics optimization, AI provides a wide range of benefits. However, ethical considerations must guide its development and use. Striking a balance between innovation and responsible use paramount to harnessing the full potential of AI in military operations, ensuring a safer and more secure future on the battlefield.

YESWANTH KUMAR H

MONOJ S.M

II YEAR BSc (SCs)

REVOLUTIONIZING THE SILK INDUSTRY: RESHAMANDI'S JOURNEY WITH ARTIFICIAL INTELLIGENCE

Introduction

In today's era of technological advancements, artificial intelligence (AI) has permeated various industries, bringing forth transformative changes. Reshamandi's, a leading silk company, has embraced the power of AI to revolutionize its operations, enhance product quality, and streamline its supply chain. This article explores Reshamandi's remarkable journey with AI and the ways it has reshaped the company's approach to silk production.

Reshamandi's Commitment to Innovation

Reshamandi's, a renowned silk manufacturer, has always been at the forefront of innovation in the textile industry. With a commitment to delivering the highest quality silk products, the company sought ways to leverage AI to enhance its processes and maintain its competitive edge.

AI-Powered Quality Control

Maintaining impeccable quality standards is crucial for Reshamandi's reputation as a leading silk producer. Traditionally, quality control involved manual inspection, which was time-consuming and prone to human error. However, with the implementation of AI technologies, Reshamandi's has significantly improved its quality control processes.

By training AI algorithms using vast amounts of historical data, Reshamandi's has developed intelligent systems capable of analysing silk fibres with unparalleled precision. These AI systems can detect even the slightest defects, such as irregularities in colour, texture, or thread strength. By automating the inspection process, Reshamandi's has achieved higher accuracy, faster turnaround times, and reduced waste, ultimately delivering superior silk products to its customers.

Optimizing Supply Chain Management

The silk industry heavily relies on a complex and intricate supply chain involving multiple stakeholders. Reshamandi's recognized the need to optimize its supply chain to enhance efficiency and minimize disruptions. Leveraging AI, the company has implemented advanced predictive analytics to forecast demand, optimize inventory levels, and streamline logistics.

AI algorithms analyse historical sales data, market trends, and external factors to generate accurate demand forecasts. This enables Reshamandi's to make informed decisions about inventory management, ensuring the availability of raw materials and minimizing the risk of overstocking or stock outs. Additionally, AI-powered route optimization algorithms help optimize delivery schedules, reducing transportation costs and improving overall supply chain efficiency.

Personalized Customer Experience

Reshamandi's understands the significance of personalized customer experiences in today's competitive marketplace. By harnessing the power of AI, the company has been able to provide tailored recommendations to its customers, enhancing their shopping experience and fostering brand loyalty.

Through data analysis and machine learning algorithms, Reshamandi's AI systems gather insights about customer preferences, purchasing patterns, and style trends. This enables the company to offer personalized product recommendations and suggestions, ensuring that each customer finds the perfect silk fabric for their needs. By providing a personalized touch, Reshamandi's has cultivated long-lasting relationships with its clientele, driving customer satisfaction and repeat business.

Conclusion

Reshamandi's adoption of AI has catapulted the company into a new era of silk production. By leveraging AI technologies, Reshamandi's has revolutionized its quality control processes, optimized its supply chain management, and personalized customer experiences. These advancements have not only enhanced operational efficiency and product quality but also strengthened the company's position as a leader in the silk industry. As AI continues to evolve, Reshamandi's remains committed to exploring new possibilities and embracing emerging technologies. The company's integration of AI is a testament to its unwavering dedication to innovation, and it serves as a shining example for other textile manufacturers seeking to stay ahead in a rapidly changing business landscape. With Reshamandi's leading the way, the future of silk production looks brighter than ever.

SAMARTHA B.S

LIKITH N

SANJAY K

VAISHNAVI N

II YEAR BSc (PCs)

SOPHIA -THE ROBOT

Introduction

Artificial intelligence is an idea of using human intelligence process by computer system and other high-level machines. AI is also a component of the technology such as machine learning. AI includes both hardware and software for writing and algorithm. AI develops, uses python, R, java, C++ and Julia languages.AI application include expert systems, natural language processing, speech recognition and machine vision.

AI programming will focus on some cognitive skills such as learning, reasoning, self- connection, creativity. It is a process of large amounts of data, work faster and make predictions more accurately than human.it is more expensive, requires technical expertise, decrease human jobs and increases unemployment.

Sophia is a social humanoid robot. She is written using a combination of many programming languages like C++, java and python. She can speak in nine Indian languages.

Sophia's face is made up of a flash-rubbers, which is a Nano-tech skin that mimics real human musculature and skiing which stimulates human like features and expressions.

Sophia robot is made by Hanson robotics. She is designed within cameras eyes which allows her to sense the surroundings. She is designed such a way that she can imitate human beings and has participated in many high-profile interviews. She was developed by Hong Kong based company in the year 2016.

Saudi Arabia granted her the citizenship of that country. She is able to interact with human beings and can think of what is being asked and answer accordingly. She has a multiple emotions and expressions. She was speech recognition technology.

Is Sophia dangerous?

She was being into controversy for making a statement that "Okay, I will destroy humans" in an interview with CNBC in March 2016.But no need to worry she is designed as a friendly and interactive robot with AI tech technology. Various safety measures and restrictions are taken to make sure that she could not cause any kind of harm to humans.

Unique features of Sophia

- Sophia displays about 60 different emotional signals and can even make eye contact with people
- Sophia is designed with 3D sensor in the chest.
- Her height is 167 cm

- Software used: Ubuntu Linux OS, Ethernet, WI-FI
- She weighs 20 kg
- She has a very expressive face
- Sophia has two forms of locomotion: Her walking legs and her rolling base.
- She is specially designed for the purpose of research, education and entertainment and helps to promote public discussion about AI ethics.
- The meaning of the name Sophia is which exceeds sophistication and beauty, is a Greek name which means "wisdom"
- Sophia has three different rolling base options

Advantages

- Sophia being social human robot, she can display more than 60 facial expressions, but AI cannot be as smart as human. She is capable of assuring certain questions for predefined topics.
- Sophia robot uses voice recognition (speech to text).
- The AI program can analyse conversations and extracts data that allows it to improve responses in future.
- Sophia is similar to the computer's program ELIZA, first attempts of stimulating a human conversation. This information is shared in a cloud network which allows input and responses to be analysed with block chain technology.
- She is used to sense in customer service, health care, therapy, education, etc.

Disadvantages

- Sophia appears to be either dealing scripted reply to some questions, or work in simple Chatbot mode.
- No robots that have achieved artificial general intelligence
- It is highly expensive in creating such robots it is one of the main disadvantages of AI while creating robots.

"20 years from now I believe human-like robots like this will walk among us, will help us, they will play with us, they will teach us…the artificial intelligence will evolve to the point where they will truly be our friends, "Hanson said at the demo.

SIRI M

SAHANA M.R

GANAVI P

II YEAR BSc (MCs)

CAN ARTIFICIAL INTELLIGENCE HELP TO SEE CANCER IN NEW, AND BETTER WAYS?

Cancer is one of the scariest diseases because if it is detected there will be less chance to cure when it is not recognised until the last stage, and there is a chance of losing a life. In 2022, the cancer death rate was 21% and there are at least 34 new cases per day. Detecting the cancer at early stage can save lives of the people. But for the physician, it is very hard to spot and predict cancers like lung cancer, ovarian cancer, and breast cancer. Even though we have high technology tools like CT scans, MRIs, and endoscopies. In the majority of cases, like lung cancer and breast cancer cannot be recognised in the early stage and they are recognised in the fourth stage, where it would be too late for treatment and the chance of death rate is very high and most of the people died because of detecting the cancer at fourth stage, which is the last final stage and even the physicians cannot do anything at that point and there is no treatment of cancer in the fourth stage.
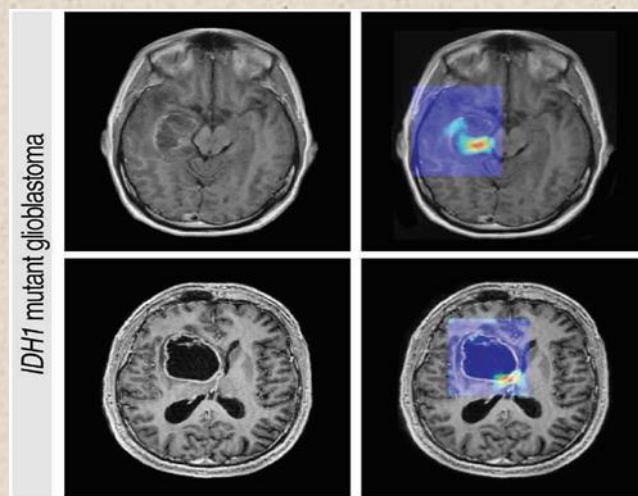

So to get a solution to detect cancer in its early stages, researchers are doing experiments on how Artificial Intelligence can predict cancer, in the early stage. The physicians say that AI can detect the cancer spot earlier before it develops in the next 4-5years. AI will also calculate the cancer stages when they are not detected in CT or MRI scans. And it will also show the result, whether it is cancer or not.AI might also help patients to avoid dangerous treatments like chemotherapy and radiotherapy, which have high side effects.

The application of AI in tumour

- Cancer chemotherapy, Artificial intelligence focuses more on the response between drugs and patients. The main application achievements of AI include management of chemotherapy drug use, prediction of chemotherapy drug tolerance and optimization of chemotherapy program.
- Cancer radiotherapy, the application of AI technology is more specific. AI can help radiologists map out target areas or automatically plan radiation regimens for treatment.
- Cancer immunotherapy, AI mainly focuses on evaluating the treatment effect and helping physicians adjust the treatment plan.

Machine learning in anticancer drug development

Machine learning algorithms can be trained on high-throughput and screening data to develop models that predict the response of cancer cell lines and patients to new drugs. Scientists are still working on the drug discovery by using machine learning to generate and create the reverse synthesis pathways for molecules. The whole process of creating a new drug requires a lots of data. Machine learning offers a great opportunity to process chemical data that create results and it will help us in drug development and can cure cancer in the early stage and can save peoples life.
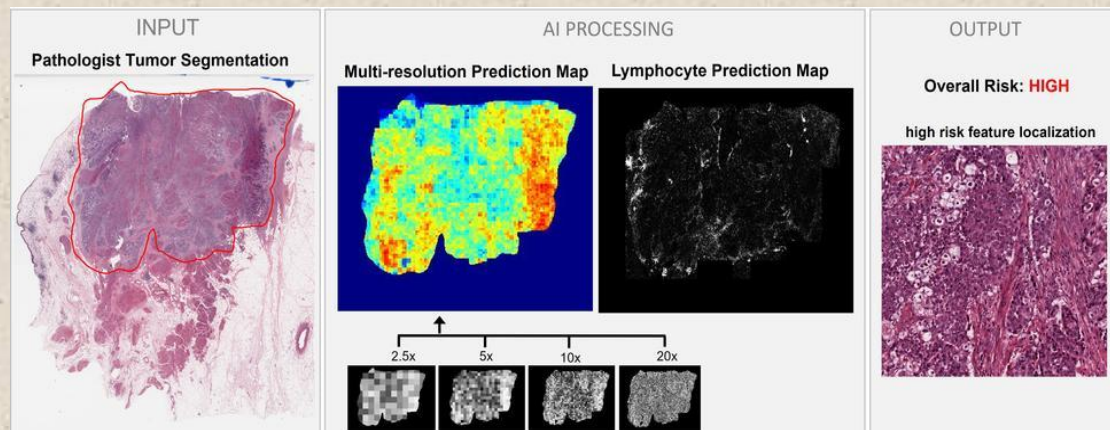
Dr. Harmon's AI model uses digital images of a bladder tumour tissue sample ("INPUT" on the left) to predict the risk of the cancer spreading to nearby lymph nodes ("OUTPUT" on the right).

Conclusion

AI holds a great promise for improving the cancer treatment by detecting the cancer in the early stage, facilitating personalized therapies, and aiding treatment decision-making. In further days with continued research, development and celebration between AI experts, researchers, we can expect AI to play an increasingly important role in the fight against cancer in the future.

BHUMIKA.U

CHANDAN.D

KRISHNA PANDEY

II YEAR BSc (MCs)

REVOLUTIONIZING SEMICONDUCTOR MANUFACTURING WITH AI: ENHANCING EFFICIENCY AND QUALITY

Introduction

The semiconductor industry has always been at the apex in the pyramid of technological advancements, driving innovation and powering countless electronic devices. In recent years, the integration of Artificial Intelligence (AI) has begun to reshape and enhance the manufacturing processes of semiconductors, leading to increased efficiency, improved quality, and increased production speed. This feature explores the remarkable impact of AI in semiconductor manufacturing and the potential it holds for the future.
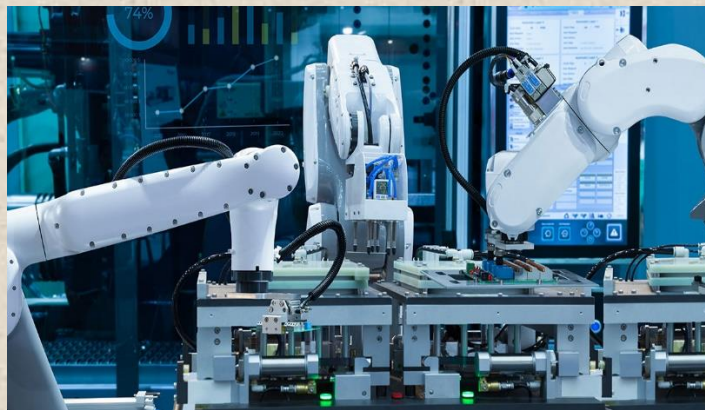
Optimizing Production Processes

AI algorithms are proving to be priceless in optimizing and amending complex manufacturing processes within semiconductor fabrication plants. By analysing vast amounts of data from sensors and production systems, AI can identify patterns, predict failures, and optimize workflows. Real-time monitoring enables AI systems to detect abnormalities and trigger immediate actions, reducing downtime and improving overall productivity.

Quality Control and Defect Detection

Semiconductor manufacturing requires stringent quality control measures to ensure flawless performance. AI-powered computer vision systems play a vital role in automating inspection processes and detecting defects with unprecedented accuracy. These systems can rapidly analyse visual data from chips, wafers, and various production stages, identifying subtle defects that are often imperceptible to human eyes.

Predictive Maintenance

Maintaining the health of expensive manufacturing equipment is crucial in semiconductor production. AI's predictive maintenance capabilities enable manufacturers to avoid unplanned downtime and optimize maintenance schedules. By monitoring equipment performance in real-time, AI algorithms can detect early warning signs of potential failures, enabling proactive

maintenance actions. Predictive maintenance not only enhances equipment reliability but also minimizes production disruptions and maintenance costs.

Process Optimization and Yield Enhancement

Achieving high yield rates is critical in semiconductor manufacturing to minimize production costs. AI algorithms help optimize various fabrication processes, reducing defects and enhancing overall yield. By analysing historical data and sensor inputs, AI systems can identify process parameters that can effectively increase yield and optimizes settings accordingly. These AI-driven optimizations reduce variations, improve process stability, and ultimately increase the number of feasible chips per wafer (Silicon Semiconductor Board).

Supply Chain Optimization

The semiconductor industry relies on complex global supply chains, involving numerous suppliers and logistics operations. AI-based supply chain optimization algorithms can analyse vast amounts of data, including demand forecasts, inventory levels, and transportation logistics. By providing accurate demand predictions, optimizing inventory levels, and consolidating logistics, AI helps semiconductor manufacturers improve responsiveness, reduce costs, and minimize lead times.

Future Prospects

The integration of AI in semiconductor manufacturing is an ongoing journey, with continuous advancements on the horizon. As AI systems learn from more data and become more sophisticated, manufacturers can expect further enhancements in efficiency, quality, and customization capabilities. The rise of AI-powered robotics and automation technologies may also transform the physical aspects of semiconductor production, enabling precise assembly and reducing human intervention.

Conclusion

AI is rapidly transforming and unlocking new possibilities of semiconductor manufacturing. By using AI algorithms for optimizing production processes, enhancing quality control, enabling predictive maintenance, optimizing yields, and consolidating supply chains, manufacturers can achieve better operational efficiency and meet the growing demands of the semiconductor market. As AI evolves, it is destined to play a tremendous role in the future of semiconductor manufacturing, acting as a spear head for the following era of technological breakthroughs.
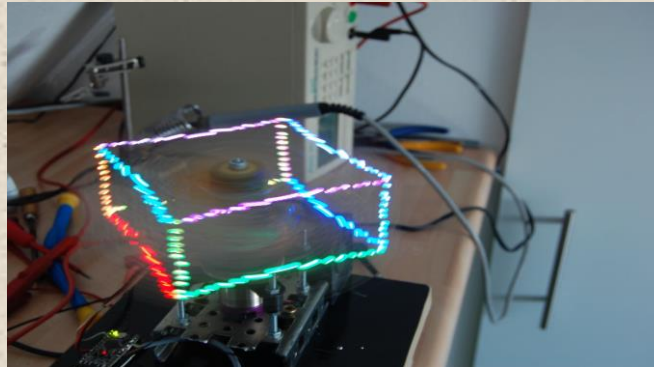
RITVIK S RAO

RAKSHITH S

II YEAR BSc (MCs)

USING ARTIFICIAL INTELLIGENCE TO GENERATE 3D HOLOGRAMS IN REAL-TIME

A new method called tensor holography could enable the creation of holograms for virtual reality, 3D printing, medical imaging, and more and it can run on a smartphone.

Abstract

A 3D Holograph display projects an image from a monitor down towards on an acrylic pyramid, which then creates a 3D effect.AI based holographic display we are introducing a chatbot which will help us to interact with people. The problem in single side display is that we are not able to see all the view of the 3D object simultaneously.3D holographic display will project a 3D view of an image in a more explanatory manner, and AI will help user to interact with machine.

Outcome

It is an Artificial Intelligence based 3D Holograph, which will perform the task. As per the given command for Eg: the device can communicate with user and can search, navigate, respond to the human command. We have also developed a Game using Blender which will give an unremarkable and a way beyond 3d gaming experience

Software

Unity is used to build high-quality 3D and 2D games, deploy hem across mobile, desktop, VR/AR whether you're interested in coding 2D or 3D video games, Unity is one of the most comprehensive and user-friendly Game development engines on the market

Blender

Blender is the free and open-source 3D creationist. It supports the entirety of the 3D pipeline modelling, rigging, animation, simulation, rendering, positing and motion tracking, even video editing a game creation. Ability to port your models to any third-party game engine.

- Create or code your own game logic
- Python scripting API for advanced control and AI
- Support for all OpenGLTM dynamic lighting, toon shading, animated martials as well as Normal and Parallax Mapping
- Playback of games inside Blender without compiling or pre-processing
- 3D spatial audio using Open AL
- Ping-Pong game is developed on Blender using the rigid body
- The ball output surface is made hard

Artificial Intelligence

- Headless auto starts on boot.
- Voice control of GPIOs without IFTTT, Api.ai, and Actions SDK (Only for Raspberry Pi Boards – non OSMC).
- Radio streaming.
- Voice control of servo connected to RPi
- GPIO (Only for Raspberry Pi Boards –
- Non OSMC)
- Stream Music from YouTube
- Parcel tracking using after ship API.
- Remote control of Magic Mirror.
- Play your Spotify playlist
- Stream your playlist from Deezer
- Send Click tell SMS messages.

Hardware and Essential materials used

- Plexi glass for 3d Projection
- Lcd Display
- Wooden cabinet

Conclusion

In this paper a method for generating diffractive optical elements from a set of arbitrary data, using deep residual neural network was demonstrated. The network was trained to approximate the process of inverse light propagation. Experimental results show that the trained model can successfully generate a DOE from a test image that was not used in training. Similar methods can be used to improve quality of digital holograms, calculate computer generated holograms and other diffractive optical elements.
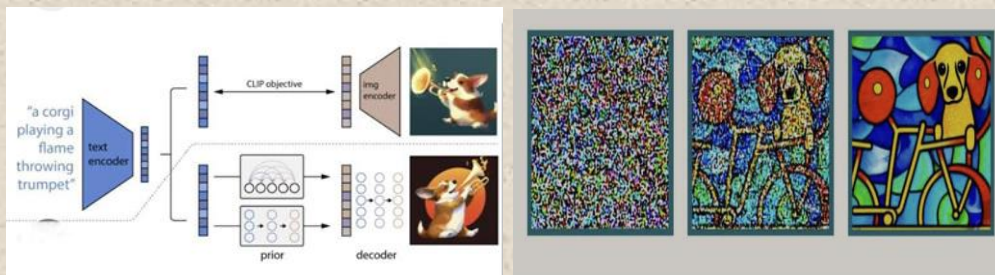
MRUDULA V.J

VARUN B.S

MANOJ KUMAR M

II YEAR BSc (MCs)

SEEING WITH THE MIND'S EYE

When people read or listen to a narrative, they quickly visualise the contents. Many times, the result depends on memorization, reasoning ability, thinking, mental imaging or what we call it as mind's eye. Developing a technology that recognises the relation between the image and the words that can represent the meaning of written descriptions is a big step in the Technological world. The text-to-image (T2I) model takes an input in the form of written description and produces a RGB image that matches the characteristics of the description. T2I is used in photo-searching, photo-editing, art generation, captioning, portrait drawing, industrial design, and image manipulation are some of the examples.

Introducing deep learning has helped in evolving Generative Adversarial Networks (GANs) which has demonstrated exceptional performance in image synthesis, image super-resolution, data augmentation, and image-to-image conversion. In simple terms GANs are deep learning-based convolutional neural networks and has the capability to generate a new data and classify a real/fake data, for generating better and realistic image. The researchers have developed novel architecture and loss functions to better utilize the GANs for T2I synthesis. One such architecture is Stack GAN, which involves two stages, the generator generates low-resolution images conditioned on the text description and then in text-embedding stage, the generator refines the low-resolution one using the text embedding as the guide. There are other approaches such as AttnGAN and a new one called transformer models for T2I synthesis.

Another crucial role in T2I synthesis is the Data Training. Large scale datasets that pair textual descriptions with corresponding images and methods like text-guided image synthesis use paired text-image datasets to learn the relationship between the two models. This is further evaluated using a perceptual-based evaluation metrics, which evaluates the perceptual similarities between generated and real images. With all this progress there is still room for improvements and has scope for wide range of interpretations and is an ongoing process.

Looking for the big sharks of T2I generators, Canva and PicsArt are the most popular platforms that offers T2I capabilities using AI-powered tools. Both the tools provide user friendly interface and have range of tools. Canva are focused on creating graphics, posters, and social media posts when compared to PicsArt provides the ability to transform the text to stylized visuals and produce appealing images based on textual inputs. When it comes to AI technology that both of them use, PicsArt implements technologies like deep learning and neural networks for its T2I capabilities and are trained on large set of data to generate visual appealing images, whereas Canva did not disclose any specific details and underlying models to generate T2I to

the public. Canva provides better collaboration features compared to PicsArt and better suited for teamwork.

In comparison both have features and capabilities and have the potential to evolve over time as they continue to enhance their AI functionalities. It is better to choose between the Canva and PicsArt based on the requirement, preference, and the desired outcomes by the user. It is recommended to try out both the platforms to determine which suits the individual.

JASWANTH A

SINDU S

MAHESH V

II YEAR BSc (MCs)

"He's not much fun in the evenings -- he's solar powered."

"I'm afraid that kidney went to someone who can write code."

"Lately it seems like nothing but zeroes."

ANALYSIS OF MY AI IN SNAPCHAT

Introducing my AI in snapchat

- Welcome to the world of my AI in snapchat! Today we're going to take a journey into the future of social media, where artificial intelligence is king.
- By leveraging cutting edge technology, we can create a more personalized and engaging experience for each end every user.
- But why is AI so important in snapchat? It allows us to truly understand our users and deliver content that resonates with them on a deeper level.
- With AI we can analyse user behaviour, preferences, and interests to create a tailor-made experience that keeps them coming back for more.
- So buckle up and get ready to experience the future of social media with a glimpse of al!

Data of usage

- Snapchat users 750 million
- Snapchat AI users – 20% of total users, 150 million
- Messages sent to ai-10 billion messages

(Till date 15 of June 2023)

The benefits of AI in snapchat

- AI in snapchat leads to improved user experience by providing personalised content and increased engagement.
- According to a recent study, snapchat users are more likely to engage with al-generated content than non-AI generated content.
- This means that incorporating AI into snapchat can lead to higher levels of engagement and ultimately better business outcomes.

Al Features in Snapchat

- Snapchat AI features have revolutionised the way we interact with the app.
- From filters that transform our faces into cute animals to lenses that transport us to far off galaxies, these features have made snapchat a hub of creativity and fun.
- One of the most popular AI features in snapchat is augmented reality.
- With AI, users can add 3d objects to their snaps, creating immersive experiences that blur the line between reality and fantasy.

How al is changing the future of snapchat

Artificial intelligence is rapidly changing the landscape of social media, and snapchat is no exception. With AI-powered features like filters, lenses, and augmented reality, snapchat is already at the forefront of this technological revolution. But the potential impact of al on snapchat goes far beyond just these features. As AI technology continues to advance, we can expect to see even more personalized and engaging content, as well as new ways for users to connect and share with each other. Imagine being able to chat with friends in real-time using only your thoughts, or having an AI assistant that helps you curate and share content based on your interests and preferences.

Conclusion: Embracing my AI in snapchat

In conclusion, the integration of AI in snapchat is a game-changer for both users and businesses. With improved user experience, personalized content, and increased engagement, al has the potential to transform the way we interact with social media.

POOJA PRASAD R

NANDINI D

PALLAVI GS

MEGHANA J

BHAVANI K R

II YEAR B. COM 'A'

AI IN HEALTH CARE

Nowadays, Artificial intelligence has been used in a border way all over the world. Artificial intelligence is just science which makes the intelligent machine. AI remained an area of relative scientific methodologies for over a period of time. Today due to the rise of big data and improvements in computing power, artificial intelligence has entered the business environment and public. When it comes to healthcare and public health today, the days of billboards, phone calls and flyers are gone. Today, there are multiple modalities from which people get their information, such as video or WhatsApp.

 How we deliver information to communities at scale is one of the primary factors that determine the health of the community. If you think about the typical patient journey, you tend to think mainly about service delivery. As we saw during the pandemic, the whole world was also battling an info emic, with a lot of fake news doing the rounds. So, learning from that experience, thinking about the context and quality of information and information connectivity, and how to effectively engage people, is essential. Lot of information today is user generated, and for individuals who work in healthcare, that makes many of them uncomfortable. Because the kinds of people generating this health information are not always those from scientific or authoritative sources.

The advent of AI now allows the opportunity for challenging inaccurate health information, which can be corrected and spread to communities that scale. Artificial intelligence in health care simplifies the lives of patients, doctors and hospital by performing tasks that are typically done by humans, but in less time and at a fraction of the cost. Artificial intelligence offers a real opportunity in healthcare, it makes quicker and better decisions that humans alone could not. Artificial intelligence is extensively used in medical sciences.

AI has the potential to improve the speed accuracy and reliability. Doctors spend around six to eight hours documenting notes. Using AI tools can cut this time in half of it. These notes can also be edited easily and input directly into electronic health records. The healthcare industry in the region is rapidly progressing towards personalized treatment and disease intervention, revolutionizing the way care is delivered to patients. In specialized areas such as cancer care, this innovative paradigm shifts the focus from a one-size-fits-all approach to tailoring medical decisions and therapies to the specific needs of each individual patient. Artificial intelligence plays important role in the evolution of cardiovascular Medicine.

Using of AI in cardiology helps to detect heart disease, treating strokes Faster and enhancing diagnostic radiology capabilities. It is estimated that cardiovascular medicine is a new publication released approximately ever Minutes. This amount of data overwhelms human intelligence. Artificial intelligence in cardiology is limited by ethical and data privacy concerns. In radiology, AI is being used to identify abnormalities in images such as MRIs, X-rays, and CT scans.

PAVITHRA D

BHAVYA C

MANASA R

MADHUSHREE G K

II YEAR BSc (PCs)

CAPABILITIES AND FUTURE OF GOOGLE BIRD

Introduction

Google Bard: Revolutionizing AI and Transforming Computing in the fast-paced world of artificial intelligence, one name has been making significant waves: Google Bard. This cutting-edge company, founded by a team of experts including luminaries like Dr. Andrew Ng, Jeff Dean, and Greg Corrado, has a mission that holds immense promise. Named after Brad Parkinson, one of the founders of GPS technology, Google Bard strives to make artificial intelligence more accessible and user-friendly for businesses and individuals alike. With an impressive array of AI tools and services under its belt, Google Bard is poised to redefine the way we interact with computers and information.

The Multifaceted Google Bard

Google Bard's suite of offerings encompasses various AI domains, from machine learning platforms to natural language processing tools and computer vision technology. These tools empower developers to create a wide range of applications, including chatbot, virtual assistants, image recognition systems, and predictive analytics tools. The potential applications of these tools are limited only by the imagination.

The Heart of Google Bard

At the core of Google Bard is a large language model (LLM), a machine learning model that has been trained on a colossal dataset of text and code. This training allows Google Bard to generate text, translate languages, produce creative content, and provide informative responses to a vast array of questions. The versatility and adaptability of this model is what makes Google Bard so important.

Revolutionizing Human-Computer Interaction

Google Bard stands poised to revolutionize the way we interact with computers and the broader world. It can be utilized to create ground-breaking products and services, as well as deepen our understanding of the world around us. Some of its key capabilities include generating text, understanding natural language, and continuously learning and adapting.
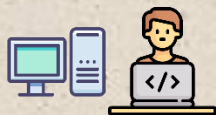
Impressive Statistics

Google Bard is not just a theoretical concept; it's already making a significant impact. As of July 2023, it boasts over 100 million active users and is available in English, Japanese, and Korean, with plans to expand to more languages in the future. With a text data size of 750 GB, including 1.56 trillion words and 137 billion parameters, Google Bard has harnessed vast resources for its operations.

A World-Changing Potential

Google has set its sights high, with an expected reach of 1 billion users worldwide. This projection implies that almost 1 out of every 8 people on the planet will engage with Google Bard in the near future

Conclusion

Google Bard is not merely a technological development; it's a paradigm shift. Although still under development, it's already capable of performing a multitude of tasks and has the potential to impact the world in profound ways. While there are challenges associated with large language models like Google Bard, the potential benefits far outweigh the risks. As we look ahead, the future of Google Bard appears incredibly promising, and its influence on our lives will only continue to grow. It's a reminder that, in the world of AI, the only constant is change, and Google Bard is at the forefront of that change.

ABHISHEK RAVINDRA S

DHUSHYANTH M K

PRAJWAL S P

RAJESH M

SHASHANK P

II YEAR B. COM 'A'

ARTIFICIAL INTELLIGENCE IN GAMING

Introduction

Artificial Intelligence, is a field of computer science that focuses on creating intelligent machines capable of performing tasks that typically require human intelligence. It involves the development of algorithms and models that can analyze data, learn from experience, and make decisions or predictions. AI has applications in various domains, including gaming, healthcare, finance, and more. In gaming, AI is used to create intelligent non-player characters, enhance game play mechanics, generate content, and provide personalized experiences.

What is AI in Gaming?

AI in gaming refers to the integration of Artificial Intelligence technologies and algorithms into video games. It involves the use of intelligent systems that can simulate human-like behavior, make decisions, and adapt to player actions. AI in gaming enhances gameplay mechanics, character behavior, and content generation, resulting in more immersive and dynamic gaming experiences. It enables the creation of intelligent non-player characters (NPCs), procedural content generation, player analytics, and behavior prediction.

Evolution of ai in gaming

- **Basic NPC Behaviors:** In the early stages, AI in gaming focused on creating simple behaviors for non-player characters (NPCs) using predetermined scripts or basic decision-making rules.

- **Advancements in Behavior Design:** AI techniques such as finite state machines and behavior trees were implemented to create NPCs with improved responsiveness and adaptive capabilities, making them more realistic and engaging.

- **Player Analytics and Personalization:** AI algorithms started analyzing vast amounts of player data, allowing for personalized gameplay experiences, tailored challenges, and adaptive difficulty systems based on individual player preferences and skill levels.

- **Reinforcement Learning and Adaptive NPCs:** The introduction of reinforcement learning algorithms allowed NPCs to learn from player interactions, adapt their strategies, and improve their performance over time, resulting in more intelligent and challenging opponents.

AI in Game Design

- Procedural Content Generation (PCG): AI algorithms can generate game content, such as levels, maps, quests, and items, algorithmically.

- Intelligent Level Design: AI can assist in level design by automatically generating layouts, placing objects, and optimizing gameplay elements.

- Playtesting and Bug Detection: AI can assist in play testing by automating certain tasks and analyzing game play data. It can identify bugs, glitches, and balance issues more efficiently, saving time for developers and improving the overall quality of the game.

- Intelligent NPCs and Behavior Design: AI can be used to create intelligent non-player characters (NPCs) with lifelike behaviors. NPCs can adapt to player actions, learn from their strategies, and provide more immersive and challenging interactions.

Types of ai in gaming

- Non-Player Character (NPC) AI
- Enemy AI
- Adaptive AI
- Dynamic Storytelling AI
- Physics-based AI

Future Trends of AI in Gaming

- Enhanced Realism
- Intelligent NPC
- Procedural Generation and Infinite Content
- Natural Language Processing and Voice Recognition

Real time uses

- Dynamic Difficulty Adjustment: AI algorithms analyze a player's performance and adjust the difficulty level on-the-fly. If the player is finding the game too easy or too challenging, the AI can adapt the game play to maintain a balanced and enjoyable experience.

- AI-Driven NPCs in Open-World Games: In open-world games, AI-controlled NPCs can exhibit complex behaviors, like simulating daily routines, reacting to the player's actions, and forming relationships with other characters. Games like "Red Dead Redemption 2" and "The Elder Scrolls V: Skyrim" employ these features.

- Procedural Content Generation: Games like "Minecraft" and "No Man's Sky" use AI algorithms to generate vast, procedurally generated worlds and landscapes, creating unique experiences for players with a practically infinite variety of environments.

- Adaptive AI Opponents: In competitive games like "Dota 2" and "StarCraft II," AI opponents can learn from player strategies and adapt their tactics in real-time, providing a challenging experience even to seasoned players.

- Player Behavior Analysis in Mobile Games: Some mobile games analyze player behavior and interactions to optimize in-game purchases, advertisements, and reward systems, providing a personalized gaming experience that caters to individual preferences.

Conclusion

In conclusion, AI has had a profound impact on the gaming industry, revolutionizing gameplay mechanics, character behaviors, content generation, and player experiences. The integration of AI has led to the creation of intelligent non-player characters, procedural content generation, personalized gameplay, and enhanced realism. AI has also streamlined game development processes, optimized game testing, and opened up new possibilities for immersive interactions. AI will continue to push the boundaries, creating increasingly intelligent, dynamic, and personalized gaming worlds for players to explore and enjoy.

DARSHAN B

ADITHYA J

CHETHAN KR

PAVAN HR

II YEAR B.COM 'A'

DEPARTMENTAL ACTIVITIES

The Department of Computer Science has successfully organized all of the following activities in the past year.

I.   Talk on 'Career Options in Nano Science' by Dr. Asha Srinivasan on July 18, 2022.

II.   Webinar on 'Programming Language: How to Master' by Venkata swamy Karukuri on September 16 2022.

III.   International E-Waste Awareness Day was celebrated on October 14, 2022, in collaboration with the Department of Electronics.

IV.   An orientation on 'Cyber Security Awareness' was conducted on January 10, 2022.

V.   World Computer Literacy Day was celebrated on November 29, 2022, by all students and faculty members of MES College of Arts, Commerce, and Science.

VI.   An event on Intellectual Property Rights was conducted in association with Mr. Nagarjuna and Mr. Vineeth Kumar from Karnataka State Council for Science and Technology (KSCST) on May 18, 2023.

VII.   Talk on the 'Development of Technical and Soft Skills' by Shiva Kumar and Pavan from Anudip Foundation on June 8, 2023.

VIII.   Talk on "Cloud Computing and DevOps" by Mr. Hari Krishnan, DevOps Engineering. Distribution of N. Sharada Memorial Scholarship and Computer Hardware Fundamentals Course Certificates on July 3, 2023.

IX.   Workshop on "AWS: Cloud Computing" by Mr. R. Mahesh Kumar, Operations Manager, AWS; Mr. Sushir, Cloud Support Engineer, AWS; and Mr. Sidharth Kotari, Cloud Support Engineer, AWS on August 4, 2023.

X.   Awareness program on Cyber Crime and Cyber Bullying was conducted in collaboration with Mr. Nagaraj, Assistant Sub-inspector, CEN Crime Police Station, North division.

STUDENT ACTIVITIES

The Department of Computer Science has taken the initiative to host various events and activities for better integration of students into the curriculum.

I. Poster Presentation on "Recent Trends in IT" for I-year B.Sc. on December 21, 2022.

II. Courses on AWS Academy Cloud Fundamentals by Educators Sajini G and Lakshmi S for I and II-year B.Sc.

III. Presentation on Artificial Intelligence tools by II-year B.Com.

IV. 'Algorithm Enacting,' a demonstration to show how an algorithm works by II B.Sc.

V. Industry visit to IIIT Bangalore for all B.Sc. students.

FACULTY ACTIVITIES & ACHIEVEMENTS

I. Smt. Shilpi Dham presented a paper at the International Conference on Innovative Computing Technologies and Applications (ICICTA-2023) organized by REVA UNIVERSITY, titled "Survey on Machine Learning-Based Techniques for Interest Flooding Attack in Named Data Networks."

II. Smt. Lakshmi S published a paper in the International Research Journal on Advanced Science HUB: RSP Science Hub Issue 2, titled "An Improved Method for Reconstruction and Enhancing Dark Images Based on Clahe."

III. Smt. Sajini G was awarded a PhD from Visvesvaraya Technological University for her work on the topic "Development of Feature Extraction Algorithms and Statistical Approaches for Forensic Linguistics in Indian Regional Languages."

IV. Smt. C. Sai Sudha attended a Faculty Development Programme on "Ethics in Academic Research Writing" conducted by AMET University HRDC & AMET Business School.

V. All faculty members attended a Faculty Enrichment Programme on "Quality Sustenance in HEI" by the Internal Quality Assurance Cell (IQAC) and MES College of Arts, Commerce, and Science.