February 2023 | Volume 12 | Issue

BITS 'N' BYTES

By Department of CS

Editorial Note:

We are thrilled to bring you the latest edition of our college newsletter, featuring a diverse range of news, events, and stories from our vibrant campus community.

As we settle into the new academic year, we are reminded of the incredible resilience and adaptability of our students, faculty, and staff. Our departments has come together to support each other and ensure that our students continue to receive a high-quality education.

In this edition, we highlight the achievements of our students and faculty, including their research, creative projects, and community outreach efforts. We also showcase the various clubs and organizations on campus, providing a glimpse into the rich extracurricular life that our college offers.

Additionally, we feature updates on our ongoing efforts to promote diversity, equity, and inclusion on campus. We believe that a truly inclusive and welcoming environment is essential for our community to thrive, and we remain committed to working towards this goal.

We hope that you find this edition informative and engaging. We welcome your feedback and suggestions for future content.

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STUDENT (EDITOR-IN-CHIEF)
MAYUR NAIK
M.Sc.(IT)

FACULTY CORNER

JANUARY 2023

- Ms. Suchitra Bhat attended a "Three day International workshop on **Statistical Modelling in Python**" on 4th , 5th and 7th January 2023 by Edu Learning Hub.


CERTIFICATE OF PARTICIPATION

This is to certify that

MS. SUCHITRA BHAT

- Ms. Ashweta Fondekar participated in the "Three Days International Workshop on **Statistical Modelling in Python**" organized by Department of Research and Publications, A2Z Edu Learning Hub LLP on 4th, 5th, and 7th January 2023.


CERTIFICATE OF PARTICIPATION

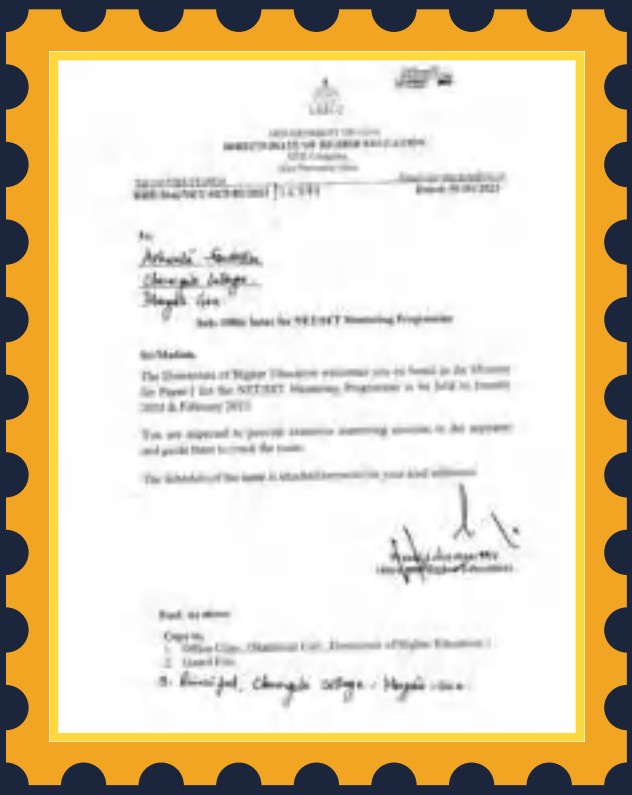
This is to certify that

MS. ASHWETA ANAND FONDEKAR

- Ms. Dikshita Vishram Aroskar, Assistant Professor from Department of Computer Science has been deputed to undergo a **Faculty Enrichment Internship Program** at IIT- Goa from 9th January 2023 to 28th April 2023.

- Ms. Ashweta Fondekar participated in one week Faculty Development Programme on " **Experiential Learning, Creative Thinking, and Hands-on Pedagogy**" from 16th -20th January 2023 organized by Directorate of Higher Education and Goa State Higher Education Council in association with Centre for Creative Learning, IIT Gandhinagar.

JANUARY 2023 (Continued...)



- Ms. Ashweta Fondekar was invited as a Mentor for Paper-I for the **UGC NET/SET Mentoring Programme,** held on 29th January 2023 at Directorate of Art and Culture, Patto, Panaji-Goa. It was organized by Directorate of Higher Education, Goa.

- Mr. Amogh Pai Raiturkar (Assistant Professor, M.Sc. IT), Rohan Almeida, Rajeev Dessai, Ayush Noorani, and Samuel Godinho published a collaborative research paper entitled "**Comparative Analysis of K-Means, SVM, Decision Tree and Naive Bayes in Predicting Diabetes Presence**" in journal entitled "International Journal of Engineering Research and Technology (IJERT)" published in Volume 11, Issue 12, December 2022 .

FEBRUARY 2023

- Dr. (Ms). Sameena Falleiro participated in a workshop on "**Incorporating Active Learning in Educational Videos**" on 4 February 2023, from 9.30am to 4pm in the virtual mode organised by The Department of Teaching, Learning and Educational Technology of Government College of Arts, Science and Commerce, Sanquelim - Goa in association with the Department of Educational Technology, IIT Mumbai.

FEBRUARY 2023 (Continud...)

- Suchitra Bhat attended a Training Programme on "**Managing Stress at Work and Home**" from 7th to 9th February 2023 held at Goa Institute of Public Administration and Rural Development, Ela Farm, Old Goa.

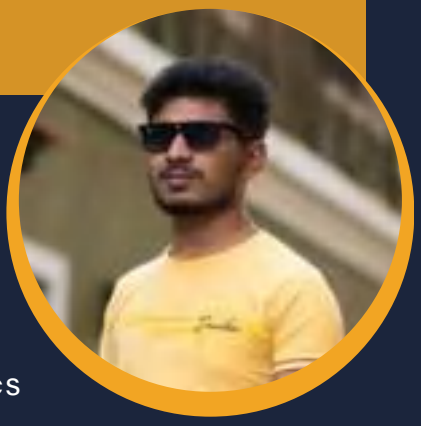
- Mr Gajanan Nial, Faculty and Incharge of MSc IT, attended a workshop on "**NEP 2020: Promotion of Indian Knowledge Systems**" held on 17th February, 2023. The workshop was conducted online by Human Resource Development Centre (HRDC), Goa University and was sponsored by the University Grants Commission (UGC).

DEPARTMENT ACTIVITY

Department Of Computer Science had conducted 2-day **IRIX Event**" on 15th February 2023 and 16th February 2023.

STUDENTS ARTICLES

How Data Analytics Help in Making Things Easy



Deeptesh Shet

Data analytics is the process of examining, cleaning, transforming, and modeling data with the goal of discovering useful information, informing conclusions, and supporting decision-making. With the explosion of big data and advances in technology, data analytics has become an essential tool in many industries, including finance, healthcare, and marketing.

One of the primary ways that data analytics helps make things easier is by reducing the time and effort required to collect, organize, and analyze data. Instead of manually sifting through spreadsheets or reports, data analytics tools automate the process and provide quick insights. This allows businesses to focus on making decisions rather than collecting data.

Another benefit of data analytics is that it helps businesses identify patterns and trends in data that might not be immediately apparent. This information can be used to make predictions about future trends and behavior, allowing businesses to make more informed decisions. For example, data analytics can be used to track consumer behavior, identifying the most popular products, services, and promotions.

Data analytics also helps organizations streamline their operations by identifying areas that can be improved or made more efficient. For example, data analytics can be used to monitor energy consumption in a building, providing information on how to reduce energy waste and increase energy efficiency.

Finally, data analytics can also help organizations comply with regulations and standards by providing information on risks, compliance requirements, and performance indicators. For example, data analytics

can help organizations comply with data privacy laws, such as the European Union's General Data Protection Regulation (GDPR), by identifying sensitive data and implementing appropriate security measures.

In conclusion, data analytics helps make things easier by reducing the time and effort required to collect, analyze, and make decisions based on data. It provides valuable insights, identifies patterns and trends, streamlines operations, and helps organizations comply with regulations and standards. With the continued growth of big data, the importance of data analytics will only continue to grow.

The future of Virtual Reality (VR) and Augmented Reality (AR)

Saba Mulla

Virtual Reality (VR) and Augmented Reality (AR) are both rapidly evolving technologies that have the potential to transform a wide range of industries. However, there are some key differences between the two technologies.

Virtual Reality (VR):VR creates a completely artificial, computer-generated environment that users can interact with. In VR, users wear a headset that completely immerses them in a virtual world, blocking out the real world and creating a sense of presence in the artificial environment. VR is often used for gaming, entertainment, and simulation purposes.

Augmented Reality (AR):AR, on the other hand, enhances the real world with digital information and objects. AR uses a device, such as a smartphone or headset, to overlay digital information on the physical world, creating a new and enhanced experience for the user. AR is often used for navigation, education, and marketing purposes.Some of

the most popular AR apps include Snapchat, Pokemon Go.In this article, we'll explore some of the expected developments in VR and AR in the near future.

Hardware and software developments have played a crucial role in the growth of VR and AR technology. In recent years, several companies have released new and improved VR and AR devices, including head-mounted displays, hand-held controllers, and other input devices. Additionally, advancements in software and platform technologies have allowed for more realistic and immersive experiences.As VR and AR technology continues to advance, we can expect to see improvements in hardware that will make these technologies more accessible to a wider range of consumers. VR and AR headsets are likely to become more compact, lightweight, and affordable, with higher resolution displays and improved sensors. These improvements will lead to a more immersive and seamless user experience.

As VR and AR technologies continue to improve, we can expect to see greater adoption across a range of industries. The education and healthcare industries are likely to be early adopters, using VR and AR for training, therapy, and telemedicine purposes. The retail industry will also embrace these technologies, using AR to enhance the shopping experience, and VR to allow consumers to experience products before they buy them.

VR and AR are expected to become more widely used in the entertainment industry, with a growing number of games, movies. This will provide consumers with a new level of immersion and engagement, allowing them to step inside their favorite movies, games, and virtual environments.VR and AR have the potential to revolutionize the way we learn, and they are expected to be increasingly used in education for immersive and interactive learning experiences. For example, VR and AR will enable students to explore virtual worlds, visit historical sites, and experience simulations that would otherwise be difficult or impossible to experience.VR and AR will increasingly be integrated with other technologies such as artificial intelligence, blockchain, and the Internet of Things (IoT), opening up new and more powerful applications and use cases.

Looking to the future, VR and AR are expected to continue to grow and evolve. The development of new technologies such as 5G and advancements in computing power will enable VR and AR to become more accessible and widely used in many industries ,in the coming years, with the global VR market expected to grow from $7.9 billion in 2020 to $45.2 billion by 2025. The gaming and entertainment industries are likely to continue to be the largest adopters of VR, while AR is expected to have a significant impact on the retail, tourism, and healthcare industries.

Virtual Reality (VR) and Augmented Reality (AR) are innovative technologies that offer unique experiences, but both have limitations that impact their functionality and overall user experience. VR limitations include high cost of hardware, discomfort during prolonged use, technical requirements such as powerful computers and fast internet speeds, limited content, and potential health concerns such as eye strain and motion sickness. AR limitations include high cost of hardware, discomfort during prolonged use, technical requirements such as powerful devices and fast internet speeds, limited content, potential health concerns such as eye strain, and limitations in accurately mapping and tracking the physical world. Despite these limitations, both VR and AR are rapidly developing technologies with a wide range of potential applications and use cases.

Conclusion

The future of VR and AR is bright, and these technologies have the potential to transform many aspects of our lives and revolutionize the way we interact with technology and the world around us. As VR and AR continue to evolve, we can expect to see a growing range of applications and an increased adoption of these technologies across a range of industries.

FPS Game and their impact on world

M. Dinesh

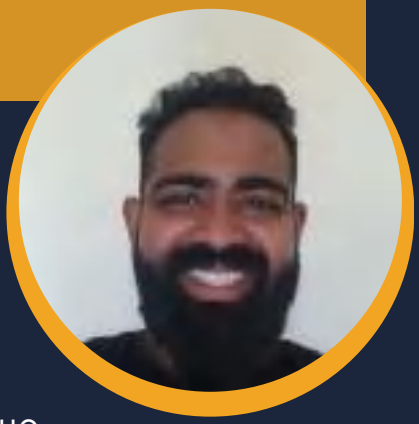
First-person shooter (FPS) games have become a staple in the video game industry and have had a significant impact on the world. FPS games have been around for decades and have evolved from simple graphics to highly realistic graphics, immersive gameplay, and intense action.

One of the biggest impacts FPS games have had on the world is their ability to bring people together. Multiplayer FPS games have created a global community of players who compete, cooperate, and form friendships through the games they play. FPS games have also played a role in the growth of the esports industry, with many of the world's top esports tournaments featuring FPS games.

However, FPS games have also received criticism for their violent content and the potential negative influence they may have on players, especially children. Some studies have suggested a correlation between playing violent video games, such as FPS games, and aggressive behavior in children. However, the majority of research in this area is inconclusive, and it is widely acknowledged that other factors, such as family life, social environment, and mental health, are much more significant contributors to aggressive behavior.

In conclusion, FPS games have had a significant impact on the world, both positive and negative. While they have brought people together and played a role in the growth of the esports industry, they have also been criticized for their violent content. Nevertheless, FPS games remain popular and continue to evolve, offering players an escape into a world of action and adventure.

Payments Using Blockchain



Joshua Kurt Pereira

Blockchain technology is a decentralized, secure, and transparent ledger that can be used to record transactions and track assets. In recent years, blockchain has been attracting increasing attention as a means of enabling payments and transfers of value.

One of the key advantages of blockchain payments is that they are secure and transparent. Each transaction is verified and recorded on the blockchain, creating a permanent and unalterable record. This makes it difficult for fraudsters to manipulate transactions or steal personal information.

Another advantage of blockchain payments is that they are faster and more efficient than traditional payment methods. Traditional payment systems often involve intermediaries, such as banks, which can slow down transactions and increase the cost. With blockchain payments, transactions can be processed almost instantly, without the need for intermediaries. This can help reduce transaction fees and make payments more accessible, especially in regions where access to traditional financial services is limited.

In addition, blockchain payments offer greater accessibility to the unbanked and underbanked population. With blockchain, individuals can store and transfer value without the need for a bank account or credit score. This can help to increase financial inclusion and provide access to financial services to those who were previously excluded.

Cryptocurrencies, such as Bitcoin and Ethereum, are the most well-known examples of blockchain payments. However, blockchain technology is also being used to develop other payment systems, such as stablecoins, which are digital assets designed to maintain a stable value, and decentralized finance (DeFi) platforms, which use

blockchain to offer financial services without the need for intermediaries.

Despite the many benefits of blockchain payments, there are still challenges that need to be addressed. For example, there is a lack of regulatory clarity in many countries, which can make it difficult for businesses to adopt blockchain payments. In addition, some users may be hesitant to adopt blockchain due to its association with illegal activities, such as money laundering and the sale of illegal goods and services on the dark web.

In conclusion, blockchain payments have the potential to revolutionize the way we transfer value and make payments. With its secure, fast, and efficient nature, blockchain technology offers many advantages over traditional payment methods. While there are still challenges to be addressed, the potential benefits of blockchain payments make it an exciting development in the world of finance.

COMPUTER TECHNOLOGY AND THE WORLD

Sanika Crisnarao Nagvenkar

Computer is a well known recent technology, wherein one can get quick vast knowledge and outcome that develops the technical growth in today's era. It not only brings the significant changes in the lives of people, but also shape the mindset of people. The technological development made the world a better place to live in and to solve the digital skills as well as to open the new opportunities throughout the world.

As we knew about the various technological aspects are used that plays an immense role in development of IT sector, to help people around the world, to enhance the fast productivity through better skills

and accuracy by the use of technology. It improved the transportation and media for the benefit of people as well as enhanced the well-structured educational infrastructure, that helped in solving difficulties through the use of computational technology. Also through an advancement of technology, the education available online, different courses and the research facilities made easier to achieve the results.

Source: (www.cwu.edu)

Day today changes in technology depend on its global trends, that play an important role to improve the trade and the shopping. It brings the positive impact in understanding an interactive and collaborative ideas. And also gives rise to the flexibility in work on the life of people. As we move forward the computer technology boosts the business strategy and due to the accurate statistic it helped to smoothen the trade and business. The cloud computing and storage are also the developments currently happening in the IT sector.

In the frontier of technology, it tackles the climatic and environmental changes by the satellites in the space. It tracks the weather patterns and monitors the atmospheric surroundings. In the medical field, it evolved immensely and transformed the approach of medical treatment into more systematically planned manner. The uses of electronic systems, to record and diagnose the personalized treatment including surgeries possible due to computer technology.

Source: (masterisd.es)

Thus an importance of computer technology extends, with a start and end the day, by connecting technically to all the aspects of the world. In today's developing era, view of seeing and understanding things in a more better perspective manner, made life easier and free due to technology and the dream of world is one family is near to complete.

ChatGPT

Kishan

ChatGPT is a cutting-edge language model developed by OpenAI, a leading research organization in the field of artificial intelligence. The model is trained on an extensive dataset, providing it with a vast knowledge base and the ability to respond to a wide range of questions and topics.

One of the key features of ChatGPT is its advanced conversational abilities. It can understand the context of a conversation and respond in a natural and human-like manner, making it ideal for use in chatbots, customer service, and other applications where human-like interaction is required. The model is also highly versatile, capable of handling a wide range of tasks, from answering trivia questions to generating creative writing.

Another advantage of ChatGPT is its scalability. As more data is added to its training dataset, the model continues to improve, becoming more accurate and capable over time. This makes it a valuable tool for organizations looking to enhance their customer engagement and support efforts, as well as for individuals looking to automate repetitive tasks or obtain information quickly.

One of the challenges in the field of AI technology is ensuring that models are safe and reliable. OpenAI has taken this into consideration in the development of ChatGPT, implementing various safety measures to prevent the model from spreading misinformation or engaging in harmful behavior.

Despite its many benefits, there are also some limitations to ChatGPT. For example, while the model has been trained on a wide range of topics, it is not perfect and may still make mistakes. Additionally, as

with any AI technology, there is a potential for misuse, and it is important for users to be aware of the ethical implications of using such models.

IT is created using a machine learning technique known as Transformer-based deep learning. The model is trained on a large corpus of text data, such as books, websites, and other sources, to learn patterns in language and generate text based on that knowledge.

Here's a general overview of the process of creating a model like ChatGPT:

Data collection: A large dataset of text data is collected and preprocessed to prepare it for training.

Model architecture: A suitable deep learning model architecture, such as the Transformer architecture, is selected based on the desired properties and goals of the model.

Model training: The model is trained on the preprocessed text data using a process called supervised learning, where the model is provided with input-output pairs and adjusts its parameters to minimize the difference between its predictions and the actual outputs.

Fine-tuning: Once the model has been trained on the general text data, it can be fine-tuned on specific tasks, such as question-answering or text generation, to improve its performance on those tasks.

Evaluation and deployment: The model is evaluated on a validation set to determine its performance, and if it meets the desired criteria, it can be deployed for use.

This process requires a significant amount of computational resources and expertise, but the result is a highly sophisticated model that can generate human-like text and perform various natural language processing tasks.

It can be useful in many applications, including but not limited to:

Natural language processing (NLP) tasks: ChatGPT can be used to perform a variety of NLP tasks, such as text generation, text classification, question-answering, and machine translation, among others.

Chatbots and conversational agents: ChatGPT can be used to create conversational AI applications, such as chatbots, that can engage with users in natural language and provide helpful information or support.

Content creation: ChatGPT can be used to generate high-quality text, such as articles, summaries, and news reports, allowing content creators to save time and focus on other tasks.

Data augmentation: ChatGPT can be used to generate additional training data for other AI models, allowing for better and more diverse models to be created.

Research and development: ChatGPT is a valuable tool for researchers and developers in the field of NLP and AI, allowing for the creation of new models and the exploration of new ideas.

It is important to note that while ChatGPT can be a useful tool in many applications, it is subject to limitations and biases inherent in the data it was trained on. Therefore, it is important to use ChatGPT responsibly and critically evaluate its output to ensure accuracy and fairness.

In conclusion, ChatGPT is a highly advanced language model that has the potential to revolutionize the way we communicate and interact with technology. With its natural language processing capabilities, scalability, and safety measures, it is a valuable tool for organizations and individuals alike, and is likely to play an increasingly important role in the future of AI.

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