



Rai University
EVOLVING THINKING MINDS



RSE CONNECT DIGITAL NEWSLETTER



**APRIL 2023
TO
JUNE 2023**

RAI SCHOOL OF ENGINEERING



ABOUT RAI SCHOOL OF ENGINEERING



Rai School of Engineering is a constituent School of Rai University established in 2013 consists of Diploma, B.Tech Degree, BCA, B.Sc IT and MCA Programmes. RSE emphasizes on Skill Development, Project Based Learning and ICT enabled pedagogies to provide Outcome Based Education to the budding Student fraternity. RSE is powered by distinguished Faculties who focus on Quality Research Papers, Chapters and Books in addition to Patent publication and grant.

VISION

To be a center of excellence in technical higher and professional education, research and support services, capable of making significant contribution to individual and societal empowerment.

MISSION

To create technically qualified world-class professionals with social commitment through Career oriented courses conducted by high profile faculties, complemented with globally Interactive learning processes and leading edge technology.



▶ CSE/IT Department

VISION

To emerge as front runner in Computer Science and Engineering education and to transform the students into globally competent professionals with expertise in software development and aptitude for research and ethical values.

MISSION

- Inculcate problem solving and team building skills.
- Provide the necessary conducive environment for promoting Analytical Learning.
- Provide the ambience to become industry ready Professionals, Researchers and Entrepreneurs by offering courses on cutting edge technology and advanced laboratory courses for the students.
- Create positive mindset for digital automated and innovative solutions.

▶ Mechanical Engineering Department (Diploma)

VISION

To develop students into technically competent and talented professionals capable of meeting the requirements of industry and society.

MISSION

- To providing an economical and high-quality technical education to satisfy ever-changing and demanding needs through a supportive Teaching-learning environment.
- To Providing service to society and industry by creating people with technical capabilities and an entrepreneurial spirit.
- To providing comprehensive education with professional moral principles to promote learners harmonic growth.



▶ Mechanical Engineering Department (B.Tech & M.Tech)

VISION

To develop our students into technically competent and ethically ideal professionals with creative leadership characteristics and a confident attitude for serving society with worldwide attention.

MISSION

- To provide our whole undergraduate and postgraduate students with a complete understanding of numerous core engineering disciplines in order to determine their basic strength in mechanical engineering.
 - To expose our students to a curriculum that includes contemporary labs, interdisciplinary studies, and industrial training so that they may get worldwide experience in world-class enterprises.
 - Through numerous initiatives in their curriculum, we hope to boost our kids original ideas and develop their capacity for leadership and cooperation.
- To instill strong ethical traits in pupils in order to promote lifelong learning and service to society and the country as a whole.

▶ Civil Engineering Department (Diploma)

VISION

To produce competent Engineers with the necessary skills and abilities to meet the Emerging requirements.

MISSION

- To enrich the knowledge and competencies required at par with changing methods.
- To prepare learners for knowledge enhancement with value and ethics.
- To ensure facilities for quality and life-long learning.

ACADEMIC EVENTS

KURUKSHETRA-The Gaming Fiesta

Post URL:

https://www.instagram.com/p/Cq2kEu3Mkhw/?img_index=1

The Rai University students participated in several domain based gaming event like Call of Duty, Among Us, Clash Royal, Valorant, and Counter-Strike. The National and International Students (i.e. Dubai) also participated in this Event. The mode of gaming event was hybrid. More than 70 plus teams participated in this event. Rai University has Organized Prize distribution to the winners and also acknowledged and rewarded the efforts of the Participants, Students Coordinators and Faculty Coordinators of the event.

Student Co-ordinators:- Prameet Kapoor, Dhruv Suthar, Ganesh Tiwari, Mohammad Kapasi, Dhruv Jani, Aftaab, Paramraj Sagar, Harshali Dave, Ankit Das, Aman Dalawat, Prince Raj, Dixit Sarvani

Faculty Co-Ordinator:- Poonam Chakravarty



The poster features the Rai University logo at the top left, followed by G2, SSIP, and the Institution's Accreditation Council logos. The main title 'KURUKSHETRA' is in large red letters, with 'THE GAMING FIESTA' below it. The dates 'March 27-29, 2023' are displayed. Five game icons are shown: Valorant, Counter-Strike, Call of Duty: Warzone, Clash Royale, and Among Us. Pricing is listed as 'ENERGY FEE : 200/-' and 'FREE ENERGY'. A starburst graphic indicates 'PRIZES worth more than ₹ 5000/-'. Contact information for Faculty Coordinator Ms. Poonam Chakravarty (7574858442) and AMAN (99822 74797) is provided. QR codes for registration and payment are also present.



ACADEMIC EVENTS

Mundra Visit on April 18-19, 2023

Post URL:

<https://www.instagram.com/p/CrQFuO4MOXE/?igshid=MzRIODBiNWFIZA>

Rai University organized two days technical visit to Adani Group Companies, Mundra on the April 18-19, 2023 under 'Udan' project as an initiative by the Adani Foundation, Students of Rai School of Engineering and Rai School of Management Studies visited Adani Power, Adani Port, Adani SEZ, Adani Wilmar. Total 78 students and 4 faculty members visited and enrich their fruitful minds with informative practical knowledge.



Seminar on Intellectual Property Rights and IP Management for Startups on April 26, 2023

Post URL: https://www.instagram.com/p/CrksYWTI16g/?img_index=2

RSE witnessed a Seminar on “Intellectual Property Rights and IP Management for Startups" on World Intellectual Property Right Day at April 26, 2023. This session was found to be fruitful for entrepreneurs to navigate the complex world of IP and take their ideas to the next level. It Empowers startups with the knowledge and tools to protect their innovative Ideas.



Seminar on International Cultural Exchange Program on May 4, 2023

The main purpose of this seminar to promote respect and understanding for other cultures hence promoting cultures to flourish in their diversity cross cultural skills in a globalised world. It is a fundamental that the nations as they interact they understand each other's values and norms for the relationships to last. In addition, cultural exchange programmes helps individuals to adjust and learn about new environments.





Founder's Day Celebration on May 6, 2023

Post URL: <https://www.instagram.com/p/Cr5YEeUrk8D>

Rai University commemorated the birth anniversary of its late Founder Chairman, Mrs. Sadhana Rai Ji, on Founder's Day by engaging in a charitable act. The University donated essential food items, fans and home appliances to Suwarn Sandhya Old Age Home, in honor of their founder's philanthropic values and dedication to community service. The donations were intended to provide assistance to individuals who are facing difficulties in meeting their basic needs during their challenging age.

By participating in this act of charity, Rai University sought to uphold the principles and values that their founder embodied and instilled in the institution. Mrs. Sadhana Rai Ji was an advocate, believed in the motion of giving back to society and believed in the power of education to transform lives. Rai University continues to follow her vision and ethos, providing quality education and empowering students to make a positive impact on the world.



Alumni Talk on National Technology Day, May 11, 2023

The program is organized by Rai School of Engineering., IIC (Institution of Innovation Council), SSIP (Student Start-up and Innovation Policy) Rai University. Honourable Speakers and prestigious of Rai University Ms. Pranjal Lokhande and Mr. Sarooparam Darji enlightened our Students and all the Participants about the Gaming Fiesta and shared their valuable Experiences. Additionally, Experts provided the valuable advice and guidance to aspiring gamers, helping them to improve their skills and achieve success in the world of gaming. The Alumni exchanged the Career Opportunities on Gaming and also shared their Experiences.



Athletic Event-Run Bhoomi Organized by Rai University on May 11-12, 2023

Post URL: https://www.instagram.com/p/Csl-tS4lTVq/?img_index=1

The Warrior-Sports Club of Rai University successfully organized a two-day athletic event named “Run Bhoomi,” showcasing various sports competitions like throwing, running, and jumping. The event was held to celebrate G20 Presidency Year and witnessed the participation of several schools. The participants displayed remarkable athleticism, making the competitions fiercely contested. The winners of each competition received medals and certificates.



Mother's Day Celebration on May 15, 2023

On 15th May 2023, Rai University celebrated Mother's Day with great enthusiasm by organizing a special event titled “Mom to Mompreneur To Mother Earth, Caring Self, Society and Sphere.” The event was held in collaboration with the Innovation and Incubation Cell (IIC) and the Student Startup and Innovation Policy (SSIP) under the G-20 Presidential year.

The highlight of the event was the presence of two esteemed guests, Patel Hiral Hitendrabhai, Sarpanch of Keliya Vasma, and Dr. Ankita Suryawanshi, a Medical Officer at PHC Ambriyara. Their presence added immense value to the occasion. They shared their experiences and insights, inspiring the audience with their achievements in their respective fields.

The university took this opportunity to honor and acknowledge all working mothers, recognizing their dedication and hard work in balancing their professional and personal lives. The event aimed to showcase the strength and resilience of working mothers and their immense contribution to society.



Y-20 Summit at Rai University on May 17, 2023

Post URL: <https://www.instagram.com/p/CsV5Q2RtiFa/>

Rai University and Gujarat Rajya Yuva Board joined hands to organize the impactful Y-20 Summit, with a primary focus on empowering the youth. The event witnessed the distinguished presence of Ex. Cabinet Minister Mr. Bhupendra Chudasama, MLA Mr. Kirit Sinh Dabhi, and Ex MLA Mr. Kanti Bhai Lakum, who added immense value to the summit. Mr. Bhupendra Chudasama actively interacted with the students, sharing his wisdom, guidance, and motivating them to harness their potential. His engagement created an inspiring environment for the attendees, encouraging them to pursue their aspirations with determination. The summit proved to be an excellent platform for young minds to connect, learn, and exchange ideas, ultimately fostering a culture of youth empowerment. The collaboration between Rai University and Gujarat Rajya Yuva Board played a pivotal role in making this event a resounding success.



World Environment Day Celebration on June 5, 2023

Rai University celebrate World Environment Day in collaboration with the Institution's Innovation Council (IIC) and the Student Startup and Innovation Policy (SSIP) under the G-20 Presidential Year. Rai University Commemorates World Environment Day with a Pledge to Safeguard the Environment. Rai University takes great pride in joining the global community in commemorating World Environment Day on 5th of June. As part of our unwavering commitment to environmental stewardship, we have meticulously organized a series of activities and events designed to foster heightened awareness and promote sustainable practices. Embracing our collective responsibility, our students, faculty, and staff have made a solemn pledge to safeguard the environment by adopting ecologically conscious habits, reducing waste generation, conserving energy resources, and championing biodiversity preservation.



International Yoga Day Celebration on June 21, 2023

On June 21, 2023, Rai University celebrated the 9th International Yoga Day with great enthusiasm. The event attended by Department Heads/Principals, Professors from different schools of the University, all of whom demonstrated a keen interest in this ancient practice. The objective of this year's celebration, themed “Yoga for Vasudhaiva Kutumbakam,” was to connect with a larger global community and promote the widespread adoption of yoga in every village in India.

The event commenced with a comprehensive introduction to Yoga Day by Mr. Dhruv Trivedi. Following that, the guest of honor, Yog Coach Damini Bhatt, as well as Yoga Trainer Shivani Bhatt, Mayuri Patel, and Sangathan Mantri Patanjali Rajeshbhai Parekh were welcomed and introduced to the audience. The program kicked off with warm-up exercises, during which all faculty members actively participated. They guided through various sitting and standing asanas, with simultaneous explanations of their significance. The instructors emphasized the importance of incorporating yoga into daily life and maintaining harmony between the body and mind. The session lasted for over an hour, witnessing active participation and engagement from all attendees. The yoga instructors provided detailed explanations of each pose and offered guidance on precautions to taken during exercise. Undoubtedly, it proved to be a successful event.



MOU with ByteXL on June 22, 2023

Ahmedabad, June 22, 2023 – Rai University, a leading educational institution known for its commitment to providing quality education and fostering inclusive growth, has taken a significant stride towards its mission by entering into a Memorandum of Understanding (MoU) with ByteXL, a renowned organization specializing in educational solutions. This collaboration aims to enhance various aspects of Rai University's development and ensure a seamless experience for students.

The MoU, signed by Prof. Dr. Anil Tomar, Provost of Rai University, and Mr. Sricharan, COO, ByteXL, solidifies a strategic partnership between the two institutions. ByteXL, with its expertise in the education sector, will play a vital role in supporting Rai University's growth trajectory. One of the primary objectives of this collaboration is to identify potential students and implement effective student recruitment strategies. ByteXL will leverage its vast network and resources to identify talented individuals who would benefit from Rai University's skill-oriented programs across diverse disciplines. By streamlining the admissions process, ByteXL aims to ensure a hassle-free and efficient experience for prospective students, enabling them to focus on their academic journey.





FACULTY ACHIEVEMENTS

Dr. Sailesh Iyer

Professor and Dean,
CSE/IT Department, Rai School of Engineering
President, RU IIC and RU Nodal Officer-GSIRF



Dr. Sailesh Iyer invited as Keynote Speaker and Technical Program Committee Chair at 3rd International Conference on Optics and Image Processing ICOIP 2023 to be held at China between April 14-16, 2023.



Dr. Sailesh Iyer edited the book on Machine Intelligence for Internet of Medical Things: Applications and Future Trends



Dr. Sailesh Iyer received three awards: RU Research Excellence, Best Innovator and Academic Achiever Awards from Dr. Narottam Sahoo Advisor and Member Secretary, GUJCOST, Dept. of Science and Technology, Government of Gujarat in the presence of Prof. Bhaskar Bhatt, Hon. Secretary and Treasurer, ISTE Gujarat Section for acknowledging Research contributions.





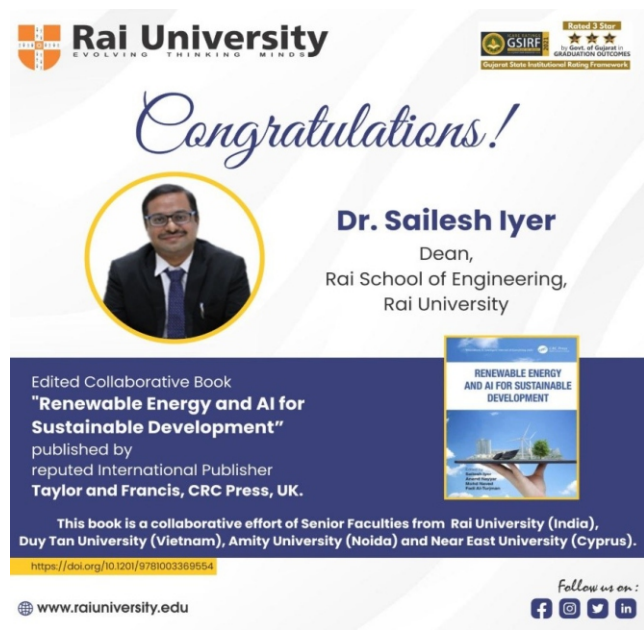
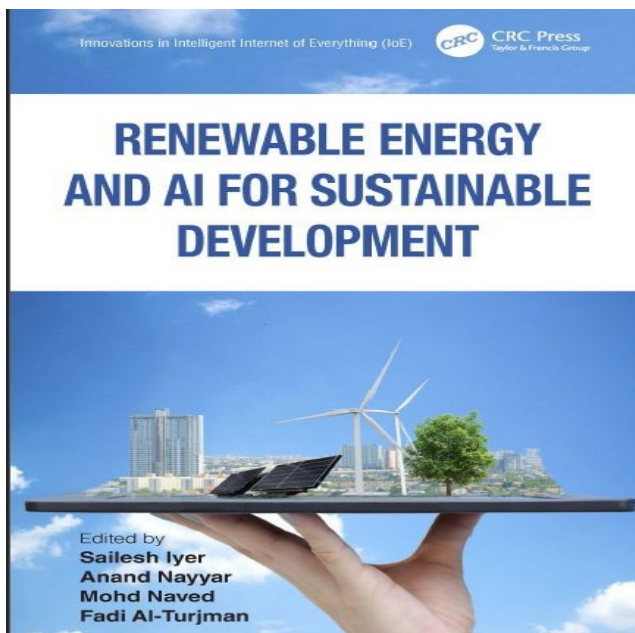
Dr. Sailesh Iyer Published the article entitled Numerical Simulation and Modelling of efficient cluster head selection algorithm for improved leach protocol in wireless sensor networks in Shodhasamhita journal of fundamental and comparative research.

Dr. Sailesh Iyer published the article entitled Visual robust multimedia search framework for efficient query optimization in the journal of The Maharaja Sayajirao University of Baroda.

Dr. Sailesh Iyer has served as the Resource Person for one-day National-level conference on Artificial Intelligence in science & and technology on August 18, 2023 at IOT Academy.



Dr. Sailesh Iyer edited the book
 Renewable Energy and AI for Sustainable Development
Editors : Sailesh Iyer, Anand Nayyar, Mohd Naved, Fadi Al-Turjman
Publisher : Routledge, CRC Press



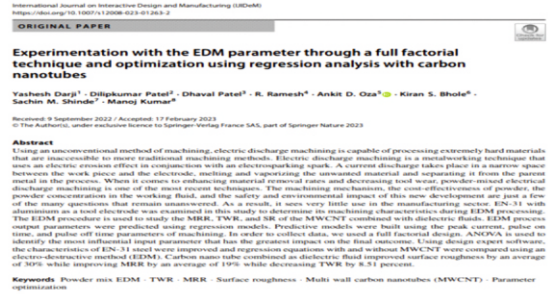


Mr. Yashesh Darji

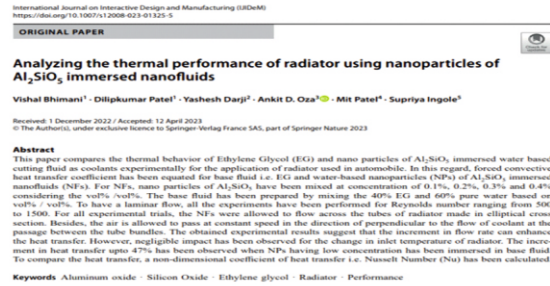
Dy. Registrar IQAC, Assistant Professor,
Mechanical Engineering Department
Qualification : M.E. Ph.D Pursuing in AMS



Mr Yashesh Darji Published the paper on Experimentation with the EDM parameter through a full factorial technique and optimization using regression analysis with carbon nanotubes in International Journal on Interactive Design and Manufacturing (IJIDeM) part of Springer Nature 2023
<https://doi.org/10.1007/s12008-023-01263-2>



Mr. Yashesh Darji Published the paper on Analyzing the thermal performance of radiator using nanoparticles of Al₂SiO₅ immersed nanofluids. International Journal on Interactive Design and Manufacturing (IJIDeM) part of Springer Nature 2023
<https://doi.org/10.1007/s12008-023-01325-5>



Mr. Yashesh Darji Awarded as the Outstanding Research Award in the category of Research Achiever by the IQAC cell of Rai University, Ahmedabad Conferred on May 27, 2023.

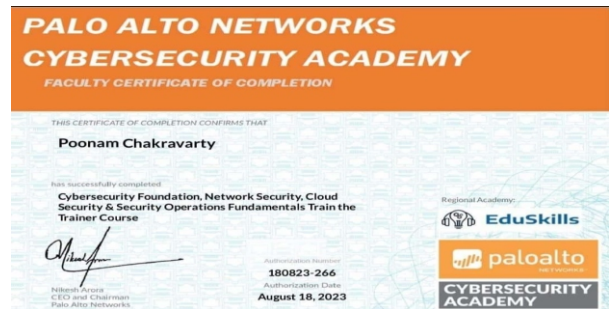


Ms. Poonam Chakravarty

HOD, Assistant Professor,
Department of CSE/IT
Qualification : M.E. Ph.D Pursuing



Ms. Poonam Chakravarti successfully completed faculty certificate on Palo Alto Networks on Cyber security Foundation, Network Security, Cloud Security & Security Operations Fundamentals Train the Trainer Course.



Mr. Dhruv Trivedi

Assistant Professor,
Department of Civil Engineering
Qualification: M.E.



Mr. Dhruv Trivedi won the Outstanding Research Award certificate in the category of Research Achiever by the IQAC cell of Rai University, Ahmedabad.





ARTICLES

AI Breakthroughs Unveiled”!! Insights of Artificial Intelligence and Machine Learning Trends and Innovations

Date: June 2, 2023

We're going to take a look at August's AI news & highlights which include new Kneron's KL730 chip, IBM breakthrough analog AI chip, Open AI deploys WebCrawler, Meta bets on AI chatbots, IBM and Hugging face initiative for Climate Change !!

1. Kneron’s auto-grade KL730 NPU chip revolutionises edge AI

Qualcomm-backed Kneron has unveiled its latest breakthrough neural processing unit (NPU) chip, which promises to be a game-changer for edge AI. The KL730 sets itself apart as a groundbreaking chip specifically designed to accommodate Artificial Intelligence, boasting Kneron’s renowned energy-efficient and secure technology innovation. Featuring a cutting-edge peripheral interface that seamlessly connects various digital signals like images, videos, audio, and millimetre waves, the chip unlocks the potential for diverse AI applications across multiple industries.

2. IBM Research unveils breakthrough analog AI chip for efficient deep learning

IBM Research has unveiled a groundbreaking analog AI chip that demonstrates remarkable efficiency and accuracy in performing complex computations for Deep Neural Networks (DNNs). This breakthrough, published in a recent paper in Nature Electronics, signifies a significant stride towards achieving high-performance AI computing while substantially conserving energy.

3. UK commits £13M to cutting-edge AI healthcare research

The UK has announced a £13 million investment in cutting-edge AI research within the healthcare sector. The announcement, made by Technology Secretary Michelle Donelan, marks a major step forward in harnessing the potential of AI in revolutionising healthcare. The investment will empower 22 winning projects across universities and NHS trusts, from Edinburgh to Surrey, to drive innovation and transform patient care.

4. OpenAI deploys web crawler in preparation for GPT-5

OpenAI has introduced a web crawling tool named “GPTBot,” aimed at bolstering the capabilities of future GPT models. The company says the data amassed through GPTBot could potentially enhance model accuracy and expand its capabilities, marking a significant step in the evolution of AI-powered language models.

OpenAI's GPTBot will have a distinct purpose: to gather publicly available data while carefully sidestepping sources that involve paywalls, personal data collection, or content that contravenes OpenAI's policies.

5. IBM and Hugging Face release AI foundation model for climate science

IBM and Hugging Face have announced the release of the watsonx.ai geospatial foundation model. Jeff Boudier, head of product and growth at Hugging Face, highlighted the importance of information sharing and collaboration in driving progress in AI. Open-source AI and the release of models and datasets are fundamental in ensuring AI benefits as many people as possible.

6. Meta bets on AI chatbots to retain users

Meta is planning to release AI chatbots that possess human-like personalities, a move aimed at enhancing user retention efforts.

Insiders familiar with the matter revealed that prototypes of these advanced chatbots have been under development, with the final products capable of engaging in discussions with users on a human level. The diverse range of chatbots will showcase various personalities and are expected to be rolled out as early as next month.



By; **Prameet Kapoor**
Student, B.Tech-IT, 4th Sem
Rai School of Engineering,
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Top Insights Trends- Artificial Intelligence News Stories in May 2023

Date: June 15, 2023

The most recent update, covering the week starting May 22, 2023, encompasses the latest progress and declarations in the fields of data science, machine learning, and artificial intelligence. This week, the focus is on prominent figures such as Adobe, Microsoft, Opera, and the University of Lausanne.

1. Adobe Has Introduced a New Feature Called Generative Fill In Photoshop

A new generative AI tool for Adobe Photoshop will enable users to swiftly extend photos and add or delete objects using text prompts. Generative Fill is now available in beta, but Adobe claims that a full version of it for Photoshop will come later this year.

Generative Fill utilizes its analysis of the surrounding elements and textures in an image to intelligently generate new pixels and seamlessly integrate them into the existing composition.

2. Microsoft Is Bringing the Power of AI to Windows 11

At Microsoft's Build 2023 conference, several exciting announcements were made. Windows Copilot was introduced, making Windows 11 the first PC platform to provide centralized AI assistance. This AI-powered feature aims to help users easily accomplish tasks and increase productivity.

3. Opera Reveals Aria, the Integrated AI Browser Feature

Opera introduced Aria, their new browser AI, offering users access to a leading generative AI service at no cost. According to Opera, Aria is seamlessly integrated into the browser, revolutionizing the browsing experience.

Built on Opera's Composer infrastructure, Aria leverages OpenAI's GPT technology and incorporates additional functionalities, including real-time web results. Aria acts as both a web expert and a browser companion, allowing collaboration with AI while searching for information, generating text or code, or obtaining answers to product-related queries. Opera's Composer infrastructure is designed for seamless expansion.

4. Swiss Researchers Utilize AI to Reconstruct Spinal Cord

Swiss Researchers used artificial intelligence to help Gert-Jan Oskam, who had been paralyzed from the waist down for more than ten years, regain control over his lower body. Following a motorcycle accident in 2011, Gert-Jan Oskam has been paralyzed from the waist down. However, there has been a recent breakthrough that has enabled him to regain mobility. Scientists have successfully developed a "digital bridge" that connects Oskam's brain and spinal cord, effectively bypassing the damaged areas.

5. Microsoft Build brings AI tools to the forefront for developers

Microsoft Build, the company's annual flagship event for developers, highlighted how AI is redefining what and how developers build, as well as how AI is changing the future of work. Microsoft also discussed new AI features and tools that it has launched or updated, such as copilots, plugins, ChatGPT, Bing, and Azure OpenAI Service.

6. Google launches Vertex AI platform to unify its machine learning tools

Google has launched Vertex AI, a new platform that aims to simplify the development and deployment of machine learning models. Vertex AI provides a unified interface for managing datasets, training models, evaluating performance, and making predictions. It also offers tools for data labelling, feature engineering, model explainability, and continuous monitoring.



By; **Dixit Sarvani**
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Top News related to AI and Data Science.

1.Topic: "Google's New AI Model Achieves Breakthrough in Natural Language Processing"

Description: Google recently unveiled its latest AI model, which has achieved remarkable advancements in natural language processing. The model demonstrates superior language understanding and generation capabilities, paving the way for more accurate and context-aware AI systems.

2.Topic: "Microsoft Launches Azure Machine Learning Studio 2.0"

Description: Microsoft has released an upgraded version of Azure Machine Learning Studio, offering enhanced features and capabilities. The new version provides a more intuitive and user-friendly interface, empowering data scientists to build, deploy, and manage machine learning models more efficiently.

3.Topic: "Facebook's AI Research Team Develops New Image Recognition Algorithm"

Description: Facebook's AI research team has developed a cutting-edge image recognition algorithm that outperforms existing models in accuracy and speed. The algorithm leverages advanced deep learning techniques and has the potential to revolutionize various applications, including image search and object detection.

4.Topic: "IBM Launches Watson Discovery for Clinical Trials"

Description: IBM has introduced Watson Discovery for Clinical Trials, a powerful tool that utilizes AI and natural language processing to help researchers and healthcare professionals efficiently analyze and extract insights from vast amounts of clinical trial data. This technology aims to accelerate medical research and improve patient outcomes.

5.Topic: "Amazon Web Services Introduces SageMaker Data Wrangler"

Description: Amazon Web Services (AWS) has launched SageMaker Data Wrangler, a comprehensive data preparation tool for machine learning. This service simplifies the process of cleaning, transforming, and normalizing data, enabling data scientists to spend less time on data preprocessing and more time on model development.

6.Topic: "OpenAI Releases GPT-3.5 Turbo, an Advanced Language Model"

Description: OpenAI has released GPT-3.5 Turbo, an upgraded version of its language model. GPT-3.5 Turbo offers improved performance, enhanced contextual understanding, and more accurate responses, making it a valuable tool for various natural language processing tasks.



By; **Prince Raj Parbat**
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"Cutting-Edge AI Insights in a Snap!" Discover the Recent Trends in Artificial Intelligence and Machine Learning

Date: May 15, 2023

We're going to take a look at May's news highlights which include new Google's new LLM, ChatGPT falsely claiming students cheated on a paper, Geoffrey Hinton's concerns about AI, and more. So let's get this going and jump into the first story!

1. Google Unveils PaLM 2: A Versatile Language Model Integrated Into Google Products

Not wanting to fall too far behind Microsoft's AI enhancement to their range of products, Google unveiled PaLM 2 a few weeks ago. According to Google, this LLM brings human-like intelligence to its products and services, think Bard, Gmail, Google Docs, and Sheets. Powered by the Carbon AI control system, Google has already begun rolling out these enhancements to several of its products and services and will continue through the rest of the year.

2. Midjourney 5.1 Brings New Changes to AI Image Creation

In the latest advancement for generative AI, Midjourney released, its latest version, 5.1. With it came an extensive list of changes, improvements, and an overall greater range for prompt engineers who use the AI program to create images. One of the major features introduced was "RAW" mode. This allows users to take greater creative control through their prompts by reducing Midjourney's "opinionatedness."

3. After ChatGPT Falsely Claimed Papers Written by AI, Texas Professor Fails More Than Half of His Class

Many in academia with the release of ChatGPT have feared the Chatbot's ability to allow students to cheat through its generated text. But for one Professor at Texas A&M, using ChatGPT to detect if students were cheating didn't turn out so well. After failing more than half of his class, and withholding diplomas for some, it turned out that many indeed didn't use ChatGPT to cheat. But the story is stranger as the professor's worries weren't unwarranted. A few students at the beginning of the semester admitted to using AI to help them write essays.

4. Microsoft AI-Powered Assistant Copilot Will Be Accessible Through Windows Taskbar

Microsoft announced its own set of enhancements. This time introduced an AI-powered assistant Copilot which is now accessible to many Windows users through the Windows Taskbar. Panos Panay, chief product officer for Windows and devices at Microsoft,

painted a very clear picture of what Copilot brings to the table. “With Bing and ChatGPT plugins in Windows Copilot, people will not only have access to augmented AI capabilities and experiences, but you as developers will have new ways to reach and innovate for our shared customers.”.

5.DeepMind Co-founder Warns Governments of AI’s Possible Negative Impact on the Job Market

Since AI has rapidly scaled across industries over the last two years, there has been a growing community of leaders concerned about AI’s impact on the job market. A few weeks ago, DeepMind Co-founder, Mustafa Suleyman, joined the ranks and warned governments about AI’s possible negative impacts on the labour force.

6.Geoffrey Hinton Leaves Google and Warns of Future Dangers in AI

Though I wish we could end the month on a lighter note, we can’t. That’s because Geoffrey Hinton, or as many know him “The Godfather of AI” left Google and warned of the future dangers the technology could bring. One of Mr. Hinton’s chief concerns is how bad actors, or black hats, could use AI technology to enhance their ability to commit fraud, think Deepfake phone calls, and videos, and then target at-risk groups. All of this makes clear that the importance of responsible AI is only growing.



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"Stay ahead of the AI curve with our latest digital newsletter, delivering cutting-edge updates and insights straight to your inbox."

Date: June 15, 2023

AI-powered code completion tool Kite launches a new plugin for Visual Studio Code

Kite, an AI-powered code completion tool, has launched a new plugin for Visual Studio Code. The plugin provides intelligent suggestions for Python and JavaScript code, as well as documentation and examples for over 800 popular libraries and frameworks.

Google AI researchers develop a new AI model that can generate text, translate languages, write different kinds of creative content, and answer your questions in an informative way

Google AI researchers have developed a new AI model called Bard that can generate text, translate languages, write different kinds of creative content, and answer your questions in an informative way. Bard is still under development, but it has already learned to perform many kinds of tasks, including:

Open AI's ChatGPT is now available to the public

Open AI's ChatGPT is now available to the public. ChatGPT is a large language model that can hold conversations with humans in a way that is often indistinguishable from a real person. The model is still under development, but it has already been used to create several impressive applications, including:

IBM's Watson AI is now being used to diagnose cancer

IBM Watson AI diagnoses cancer. Watson AI can analyze data and identify patterns invisible to humans. System aids cancer diagnosis by analyzing medical images and patient data. Watson AI can enhance cancer diagnosis accuracy. Watson AI excels at identifying cancer cells with exceptional accuracy.

DeepMind's AlphaFold is now able to predict the structure of proteins with unprecedented accuracy

AlphaFold predicts protein structures with high accuracy. AlphaFold is a DeepMind AI model. The model predicts protein structure with unprecedented accuracy. Breakthroughs could revolutionize medicine and biology, leading to disease treatments and a deeper understanding of the human body.

AlphaFold may transform medicine and biology. AlphaFold can design drugs for protein targeting or treating misfolding-induced diseases.

Google announces new funding for AI Research

Google invests \$1 billion in AI research for 3 years. Funds for research in natural language processing, computer vision, and machine learning. Google's AI investment is a significant commitment. This investment will maintain Google's leadership in AI research and development, creating groundbreaking technologies that can transform the world.

Microsoft launches new AI platform

Microsoft has launched a new AI platform called Azure AI. Azure AI is a cloud-based platform that provides developers with access to a wide range of AI services, including machine learning, natural language processing, and computer vision.



By; **Dixit Sarvani**
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Safeguarding the Infrastructure of Tomorrow: Interplay of Recent Trends in Civil Engineering, Transportation, and Cyber security

Date: May 11, 2023

Technology Day Special Feature, [2023]

In the realm where civil engineering, transportation, and cyber security intersect, a new era of innovation is unfolding. As we mark another Technology Day, it's an opportune time to delve into the synergies among these fields, exploring how recent trends are shaping the future of our built environment while ensuring its security in the digital age.

1. Smart Infrastructure: Pioneering the Urban Landscape

Recent trends in civil engineering are pushing the boundaries of what's possible in urban planning and development. The concept of "smart cities" is taking shape, where infrastructure is embedded with sensors, data analytics, and automation to enhance efficiency and quality of life. Intelligent transportation systems, connected roadways, and smart buildings are examples of how civil engineering is merging with technology to create urban space

2. Sustainable Transportation: Navigating Towards Eco-Friendly Future

The transportation sector is undergoing a transformative shift towards sustainability. Electric vehicles (Evs), autonomous transportation, and shared mobility services are revolutionizing the way we move. With a focus on reducing carbon emissions and congestion, civil engineers are collaborating with tech experts to design charging infrastructure, optimize traffic flow, and implement green transportation solutions that align with environmental goals.

3. Cyber security Challenges in Smart Infrastructure

As digital technologies become integral to our infrastructure and transportation systems, the need for robust cybersecurity measures becomes paramount. With interconnected networks and data exchanges, the vulnerability to cyber threats increases. Ensuring the security and integrity of critical systems, such as traffic management and smart grids, requires a holistic approach that combines advanced encryption, real-time monitoring, and predictive analytics.

4. Resilient Urban Planning: Mitigating Risks in a Digital Landscape

Urban planners and civil engineers are now factoring cyber security into their designs. The potential consequences of cyber-attacks on critical infrastructure are immense, affecting not only convenience but public safety as well. Resilient urban planning involves designing infrastructure and transportation systems that can withstand and recover from cyber incidents, ensuring continuity even in the face of digital threats.

5. Collaborative Synergies for a Safer Future

The integration of civil engineering, transportation, and cyber security necessitates collaborative efforts among professionals from various domains. Engineers, urban planners, cyber security experts, and policymakers must collaborate to design and implement infrastructure that is not only advanced but also secure. This convergence of expertise will lay the foundation for a future where technological advancements and safety go hand in hand.

On this Technology Day [Current Year], let us celebrate the fusion of innovation in civil engineering, transportation, and cyber security. As we build smarter cities and embrace sustainable transportation, let us also prioritize the development of robust cyber security strategies to ensure that our digital progress remains resilient and secure. By uniting these disciplines, we are forging a path toward a technologically advanced and protected world's that are safer, greener, and more responsive to citizens' needs



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The Crucial Role of Data Structures and Algorithms

Date: June 7, 2023

In the world of computer science, where innovation and problem-solving reign supreme, the significance of data structures and algorithms cannot be overstated. These fundamental building blocks underpin the efficiency and effectiveness of software development, making them a cornerstone of every coder's toolkit.

Data structures serve as the architectural framework for organizing and storing data in a computer's memory. They determine how data is accessed, modified, and processed. From arrays and linked lists to trees and graphs, choosing the appropriate data structure can greatly impact the speed and efficiency of operations performed on the data.

Equally vital are algorithms, the step-by-step procedures used to solve specific problems or perform tasks. Algorithms leverage data structures to execute operations, and their design can spell the difference between an efficient program and a sluggish one. Optimized algorithms minimize resource consumption and execution time, ultimately leading to superior software performance.



The importance of mastering data structures and algorithms extends across various domains:

- 1. Software Efficiency:** Well-designed data structures and algorithms enable software to handle vast amounts of data swiftly and with minimal resource usage. This is crucial in applications ranging from real-time systems to large-scale databases.
- 2. Problem Solving:** Developing strong algorithmic thinking enhances a programmer's ability to solve complex problems efficiently. This skill is not only valuable in coding competitions but also in real-world scenarios where elegant solutions are paramount.
- 3. Interviews and Career Advancement:** Many tech job interviews feature algorithmic problem-solving assessments. A solid grasp of data structures and algorithms can be a key differentiator in securing coveted positions.
- 4. Innovation:** Many ground breaking technological innovations, such as search engines, recommendation systems, and navigation apps, heavily rely on advanced algorithms and data structures.
- 5. Scalability:** As applications grow in scope and user base, the efficiency of their data processing becomes crucial. Properly chosen data structures and algorithms contribute to seamless scalability.

In conclusion, data structures and algorithms are the backbone of Computer Science and software development. It empowers developers to create efficient, effective, and innovative solutions to a wide array of problems. By mastering these fundamental concepts, aspiring programmers and seasoned professionals alike lay the groundwork for a successful and impactful career in the ever-evolving realm of technology.



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The AI-Driven Horizon of Cybersecurity

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The relentless growth of cyber threats in an increasingly interconnected world demands innovative solutions. Enter artificial intelligence (AI), a technology rapidly transforming the landscape of cybersecurity. AI-powered threat detection and mitigation promise to reshape how organizations safeguard their digital assets, offering a new level of proactive defense against an evolving array of cyber risks.

At the heart of AI's impact on cybersecurity lies its unparalleled ability to analyze vast amounts of data in real-time. Traditional security measures often struggle to keep pace with the sheer volume and complexity of modern threats. AI, however, thrives in this environment, utilizing machine learning algorithms to identify patterns and anomalies that might escape human detection.

One of the key applications of AI in cybersecurity is in threat detection. By continuously analyzing network traffic, AI algorithms can swiftly identify suspicious activities and behaviors that could indicate a cyberattack. These systems learn from historical data and adapt to new threats, resulting in increasingly accurate and efficient threat detection. Moreover, AI doesn't just stop at detection – it extends to mitigation as well. AI-powered cybersecurity solutions can autonomously respond to threats by deploying countermeasures, isolating affected systems, or alerting security personnel. This rapid, automated response minimizes the potential damage of a breach and reduces the time hackers have to exploit vulnerabilities.

While AI's potential in cybersecurity is remarkable, challenges persist. The technology's effectiveness relies on the quality and diversity of the data it learns from. Moreover, ensuring the transparency and explainability of AI decisions is crucial to building trust among security professionals and users.

As the cyber threat landscape continues to evolve, so too does the role of AI in cybersecurity. The future envisions AI systems collaborating seamlessly with human experts, forming a formidable *Défence* against cyber threats. As AI technology advances, it will be essential for organizations to invest in both skilled personnel and cutting-edge AI tools to harness its potential fully.

In conclusion, AI-powered threat detection and mitigation represent a pivotal shift in the cybersecurity paradigm. With the ability to learn, adapt, and respond at unprecedented speeds, AI offers a potent shield against the ever-growing spectrum of cyber risks. As organizations embrace this technology, they lay the groundwork for a safer and more secure digital future.



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Exploring the Power of Zero-Knowledge Proofs

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In the ever-evolving landscape of cybersecurity, one concept has gained prominence for its potential to revolutionise data protection and privacy: zero-knowledge proofs. This cryptographic method offers a ground-breaking way to validate information without revealing the actual data, ushering in a new era of secure transactions and interactions.

Zero-knowledge proofs allow one party (the prover) to demonstrate to another party (the verifier) that a specific statement is true without disclosing any underlying information. Imagine Alice proving to Bob that she knows a secret code without actually telling him the code itself. This process eliminates the need to share sensitive data, making it a robust tool for securing various online activities.

One of the most practical applications of zero-knowledge proofs is in blockchain technology. In blockchain-based systems like cryptocurrencies, proving ownership of a digital asset traditionally required revealing the ownership key. With zero-knowledge proofs, however, individuals can validate ownership without exposing the key, significantly reducing the risk of theft or fraud.

Another domain benefiting from zero-knowledge proofs is authentication. Traditional password-based authentication systems carry inherent security risks. By implementing zero-knowledge protocols, users can prove their identity without disclosing their actual credentials. This approach not only enhances security but also simplifies the user experience by eliminating the need to remember complex passwords.

Furthermore, zero-knowledge proofs are poised to transform privacy in data-sharing scenarios. Enterprises can now share insights from sensitive datasets without compromising individual privacy. Healthcare institutions, for instance, could collaborate on research without sharing patients' confidential information.

However, like any technology, zero-knowledge proofs come with challenges. Implementing these protocols requires specialized knowledge and careful integration. Additionally, ensuring that the proofs themselves are secure and not manipulated is of utmost importance.

As our digital world continues to expand, the importance of robust cybersecurity becomes paramount. Zero-knowledge proofs offer a potent solution by enabling secure interactions without exposing sensitive data. Their potential to redefine the way we handle transactions, authentication, and data sharing is remarkable. As researchers and developers refine these methods, we can look forward to a future where security and privacy coexist seamlessly in the digital realm.



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