

IEEE SIESGST PRESENTS

TECHNOZONE

PIXELS: BEYOND THE CONSOLE



I S S U E E I G H T

2023

PRESS X TO CONTINUE

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ABOUT SIES

The South Indian Education Society (SIES) was established in 1932. It is a pioneer in the field of education, knowledge, and learning in this metropolis. Society has been serving the cause of education and has carved for itself a niche, as a provider of quality and value-based education from nursery to doctoral level in a wide variety of fields. The institute seeks to achieve the educational mission by focusing on the modes of inquiry, which strengthens thinking skills and provides extensive field experiences to bring together theory and practices.

"This society should sincerely serve the cause of education and the educational needs of the common man of this cosmopolitan city"

- SIES MISSION

(Set by our Founder Shri M. V. Venkateshwaran in 1932)

"To be a centre of excellence in Education and Technology committed towards Socio-Economic advancement of the country"

- SIESGST VISION

SIES Graduate School of Technology, an integral part of this well-established community, started in the year 2002 and is located in the list of educational hubs in Navi Mumbai imparting quality based technical education, offering a four-year Bachelor of Engineering degree courses in Electronics and Telecommunication Engineering, Electronics & Computer Science, Computer Engineering, Computer Science & Engineering (Internet Of Things and Cyber Security Including Block Chain Technology), Artificial Intelligence & Data Science, Artificial Intelligence & Machine Learning, Information Technology and Mechanical Engineering. Additionally, offering Master of Engineering courses in the booming field of Artificial Intelligence & Data Science and Information Security. SIES GST has been well known in terms of producing quality and quantity. It stands to be a prestigious institution with a rich set of qualified faculties who have always been there to serve the young growing minds. SIES GST aims to enlighten its students and bring the best out of them.

ABOUT IEEE SIESGST

The resplendent IEEE student chapter took its glorious inception in 2006, nestled within the esteemed grounds of SIESGST. IEEE, as one of the most venerable student chapters of the prestigious SIES Graduate School of Technology, has relentlessly pursued the noble goal of magnifying intellectual brilliance and cultivating an atmosphere that encourages the ethereal development of each individual who graces our domain.

Our mission is to inspire young minds with the latest technological advancements, achieved through contemporary workshops that welcome aspiring students. Within our chapter, participants can engage in workshops covering various transformative disciplines such as Prompt Engineering, Dark Web Untangled, Webascend, Design 101, Innovation and Start-up Ecosystem and more.

This grand occasion attracts enthusiastic participants not only from our institution but also from colleges across Mumbai, Navi Mumbai, and India as a whole. The outstanding winners of each captivating event will receive impressive rewards, including cash prizes, designed certificates, and medals as tokens of appreciation.

This year also marked the third edition of Epsilon, our flagship event that gathered brilliant minds from around the world for captivating discussions on 'The Galaxy Of Intelligence.' Epsilon 2023 featured industry experts in Deep Space Communication, Nero AI, Computer Vision sharing profound insights and exchanging knowledge. With 22 distinguished speakers, the event transcended boundaries, fostering a global community of learning. Its impact extended worldwide through YouTube, garnering overwhelming engagement and testifying to its success in captivating and educating audiences globally.

We were honored to have 22 esteemed speakers hailing from various corners of the world join us, each contributing their invaluable expertise and knowledge within their respective domains. Their collective objective was to share their profound insights, ensuring that attendees gained a wealth of knowledge tailored to their specific areas of interest. The impact of Epsilon extended far beyond the physical confines of the symposium, resonating with a global audience through its live streaming on YouTube. This widespread exposure resulted in an overwhelmingly positive response from individuals spanning the globe, further solidifying Epsilon's reputation as a premier event for those seeking to delve deeper into the ever-evolving realm of Galaxy of Intelligence.

Every year, with immense pride and glorious celebration, IEEE SIESGST presents its magnificent national-level annual technical festival known as "TECHOPEDIA". This year was celebrated as the twelfth glorious edition of our beloved and highly anticipated technical festival, Techopedia Level 12. Each passing year, a fresh wave of exceptional talents flocks joins the organizing committee, adorning the festival with their unique ingenuity, built upon a timeless foundation that has stood steadfast for twelve illustrious years. Witness the exponential growth of event quality and the vibrant dynamism of our formidable team!

IEEE SIESGST extends heartfelt gratitude to our esteemed Principal, Dr. K Lakshmi Sudha, the respected HOD of EXTC, Dr. Preeti Hemnani, our wise Branch Counselor, Prof. Biju Balakrishnan, WiE incharge Prof. Vaishali Mangrulkar and the entire pantheon of our beloved student chapter, whose ceaseless dedication and unwavering efforts have propelled the glorious progress of IEEE SIESGST to soaring heights of excellence.

FROM THE DESK OF OUR **BRANCH** COUNSELOR



I am delighted to present to you the 8th edition of the 'TECHNOZINE' annual technical magazine of IEEE SIESGST. As a branch counselor at IEEE SIESGST, I have closely observed this student branch. With each passing year, we encounter fresh challenges and opportunities, and my aspiration remains to cultivate a spirit of curiosity and innovation among our young minds. I have witnessed the efforts of the students towards sharing technology and being able to contribute to society through various events.

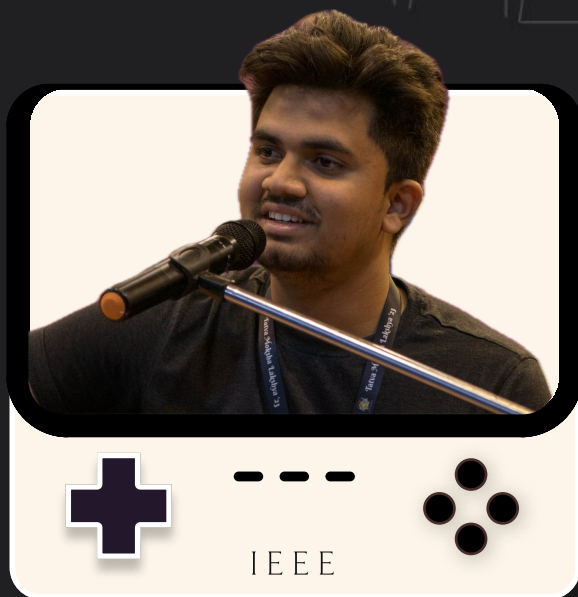
Be it conducting symposiums, webinars by industry experts, or STEM lectures, the committee has always tried to live up to expectations. STEM lectures by the Women in Engineering (WiE) affinity group and various insightful webinars under the Computer Society (CS) chapters have positively impacted students. Acknowledging that perfection is an ongoing pursuit, it is imperative to recognize that there is always room for improvement. I am confident that as member of the IEEE family, each individual will continue to evolve and thereby propelling our collective journey towards excellence.

'TECHNOZINE', the annual magazine, displays the effort of the entire IEEE crew. It accounts for the successful execution of all the events conducted under IEEE SIESGST, from the highlights of the three-day symposium 'EPSILON' to IEEE SIESGST's flagship event 'TECHOPEDIA' 12.0, this magazine encapsulates the essence of our achievements. It features technical articles authored by the students of SIESGST, highlighting their intellect and prowess in the field.

The smooth execution of these events is possible with the support of our respected advisor, Dr. P. V. Parameswaran, principal, Dr. K. Lakshmi Sudha, and HOD, Dr. Preeti Hemnani. As we embark on new journey, I wish each one of you a bright future.

~Prof. Biju Balakrishnan
IEEE Branch Counselor, CS, and
MTT-S Chapter Advisor.

IEEE CHAIRPERSON



My life and personality have gone through many changes. But the one brought by IEEE SIESGST has been the most crucial and positive. Three years in this organization and now I have a completely different perspective towards my personal and professional life.

I started as a volunteer for an event called 'Labyrinth' held under the tenth edition of Techopedia, with nothing but some motivation and spirit to make something beautiful. Building an event from the ground up was something I had never done before. The challenges that me and my team faced shaped our minds in a way to welcome more challenges and tackle them smartly. This phase ultimately strengthened my bond with IEEE SIESGST. I was promoted to the position of Media Head. This promotion certainly boosted my confidence and gave me an opportunity to master my skills with the help of teamwork.

And in the year ahead I was promoted to the position of the Chairperson, where now I was

leading people with a spirit of creating and developing something together. This circle of life at IEEE SIESGST certainly made me realize that this was the hub of development for not only our audience but our team members as well.

Fortune has been very kind to me, for I had a wonderful batch of teammates. From the seniors, colleagues and juniors, everyone has either inspired me or taught me a valuable lesson, which I will gladly cherish and pass on. The support we have received from our Branch Counselor Prof. Biju Balakrishnan is something that can never go unnoticed. Many generations of successful people have been groomed under him and I consider myself fortunate that I am one of those.

IEEE SIESGST is one of the most active branches and consistently producing quality events. This is a very difficult task, but our team has managed to deliver excellence every year and held our name high. For three consecutive years, being recognized as the Exemplary Student Branch at the IEEE R10 awards, and seeing those recognitions displayed at our college brings an immense feeling of pride in me.

IEEE SIESGST is one of the oldest student branches of our college. Many generations have built and developed the very platform; we have been a part of. The success of this branch was years in the making, and I feel myself to be fortunate to witness it. I have been always saying this, "IEEE SIESGST is not just a team, it's a LEGACY!" The legacy which the future generations will be carrying on.

IEEE CHAIRPERSON

There is a lot more to achieve and lot more to climb on this mountain which has the peak of success. But being a part of this journey certainly fills my heart with pride and my eyes with tears of joy.

For all this organization has given me, from the challenges to the happiness of overcoming them, from the dedication to the discipline of working towards it, I want to say, thank you for changing my life and making me a better man. I wish IEEE SIESGST with all the luck to keep growing and inspiring everyone to achieve excellence every day.

~Chinmay Gawas
IEEE Chairperson, 2023

IEEE REPRESENTATIVE



As I contemplate on my time at IEEE SIESGST, I am filled with a profound sense of gratitude and nostalgia. IEEE SIESGST has been more than just a student body, it has been a crucible of growth, learning, and self-discovery. As I pause to reflect the chapters of my life, the one chapter that stands out with remarkable clarity is my experience with IEEE SIESGST. Within the hallowed halls of this institution, I experienced a metamorphosis, a transformation that shaped not only my professional trajectory but also the very essence of my being.

My journey with IEEE SIESGST commenced in a serendipitous manner, as I took on the role of a PR Volunteer, a role that acquainted me with the intricate workings of the organization and ignited a deep passion within me. Little did I know then that IEEE SIESGST would become such an integral part of my life, a source of inspiration and greater opportunities.

It appeared as though I was destined to be a part of IEEE SIESGST, it gave me a sense of belonging, guiding me towards the path of personal and professional development. With each event and responsibility, my love for IEEE grew exponentially. Throughout my time with IEEE SIESGST, I've had the privilege of serving in various leadership roles, each presenting its own set of challenges and opportunities. One such pivotal moment in my journey was serving as the Vice-Chairperson of WiE(Women in Engineering), a transformative experience of self-discovery. With the help and support of my team we facilitated STEM lectures, an enduring experience wherein we empowered students within the domain of STEM education. With each stride forward, I found myself inching closer to a newfound sense of confidence and self-assurance. WiE became a cornerstone of my experience, shaping my values and guiding my actions.

Later, I ascended to the esteemed position of IEEE Representative at SIESGST. It was here that I discovered my leadership potential. Whether managing events or strategic decision-making with confidence and grace, each responsibility bestowed upon me contributed to my development as a leader and as an individual. One of the most fulfilling parts of my journey has been guiding the next generation of IEEE SIESGST. Whether through event organization or offering mentorship, I've always endeavored to instill a sense of passion, determination, and innovation in my peers.

IEEE REPRESENTATIVE

The journey was not without its challenges, but with the unwavering support of my fellow council members and our branch counselor, we overcame every obstacle that came our way. The success of Techopedia Lvl 12, themed "Pixels: Beyond the Console," fills me with immense pride. Equally astounding was the overwhelming response to Epsilon 2023, themed "The Galaxy of Intelligence," which featured over 22 speakers, including renowned international experts. These events not only showcased our organizational prowess but also forged bonds of camaraderie and friendship that will endure a lifetime. IEEE SIESGST became more than just an organization for us, it became a family, where we laughed, learned, and grew together.

I also had the privilege to volunteer and represent my student branch at both sectional and regional levels. These experiences provided me with valuable opportunities to engage with industry professionals, establish connections, and acquire substantial knowledge. No reflection on my journey with IEEE SIESGST would be complete without acknowledging the guiding figures who have illuminated our path. Prof. Biju Balakrishnan and Prof. Vaishali Mangrulkar, the stalwarts of IEEE SIESGST, their unwavering support, sage counsel, and boundless encouragement were the pillars upon which our successes were built, and for that, I am eternally grateful. The journey from self-doubt to self-assurance, from reticence to resilience, IEEE SIESGST has mirrored my personal evolution. It is the place where I found my voice, realized my worth, and sculpted my identity over the duration of my engineering pursuit.

As I bid farewell to IEEE SIESGST, I do so with a heavy heart but also with a profound sense of gratitude and reverence. It has left an indelible mark on my life, one that I will cherish forever, a journey that I will forever hold dear in my heart. Though goodbyes are never easy, I take solace in the knowledge that the lessons learned and the memories shared will endure for a lifetime. IEEE SIESGST will always hold a special place in my heart, and I am forever grateful for the experiences and opportunities it has bestowed upon me. Farewell, IEEE SIESGST, and thank you for the memories. GO IEEE!!

-Kirti Ekhande
IEEE Representative, 2023

CS CHAIRPERSON



As someone who always wanted to stand out of the crowd and wanted to execute ideas that were out of the box, IEEE SIESGST orchestrated the perfect platform for me. That's why when I got the opportunity to be a volunteer at Quantum Break in Techopedia X, I jumped at it. After nearly a year at home without socializing, Techopedia X brought the best opportunity to get to know a wonderful batch of seniors, super seniors, and my fellow teammates because of whom the fest was a top-notch hit. It was in one of the events in Techopedia X, Labyrinth, where I hosted which allowed me to polish my public speaking skills.

Then soon next year I joined IEEE as the Technical Head where I found a platform to not only sharpen my technical skills but also to hone organizational skills through workshops and seminars. With each responsibility shouldered, I journeyed from a humble volunteer to the esteemed position of Computer Society Chairperson in 2023, a role that catalyzed my evolution as a leader.

Joining IEEE SIESGST is like being born into a wealthy family, with the primary responsibility being to elevate an already renowned reputation.

When asked what makes IEEE SIESGST a great team, I say it is the individuals who are competent in their different fields and the collective energy and enthusiasm we pour into event execution. A great team has outstanding players, not necessarily all 'A' players, but people who want to be there and have a similar desire and dedication to achieve shared goals.

Finally, I'm eternally thankful to the pillar of IEEE SIESGST, Prof. Biju Balakrishnan, who has always looked after the whole team with his professional expertise. IEEE SIESGST will never cease to be baffled by its ideas, and it will continue to put together events on a larger and greater scale each passing year. I extend my best wishes to the entire student body and every member for all their future endeavors. Good luck! GO IEEE, GO CS.

~Ankur Rai
CS Chairperson, 2023

WiE CHAIRPERSON



Scratched my head, and browsed the internet on what to write but nothing could capture what IEEE means to me into words! Simply put, this journey felt like a turbulent flight that came to a smooth landing. The first time I came to know about IEEE was through Techopedia X, during my second year which was in lockdown, and during all the uncertainty IEEE managed to conduct the national-level technical fest of SIESGST. All everyone could talk about was the different events that Techopedia X was going to host.

On the day, IEEE volunteers were coordinating a variety of activities together, and I was quite pleased and intrigued about how the backend worked. As Jr. Council forms were out, I was determined to be a part of this incredible team, and then was eventually selected as the Joint Secretary for the year 2022. In that one year, I developed personally, it showed me the true meaning of professionalism, and how to bear pressure, and well there is no better place to learn the art of multitasking than in IEEE SIESGST.

This year we also won the Regional Exemplary Award for the third consecutive year; it was the perfect finishing touch. I was appointed as the WiE chair for the year 2023. The responsibility for managing and building such a large team cannot be understated. It's an immersive experience that tests one's organizational skills and ability to foster teamwork amidst diverse personalities and goals.

When asked about the finest experiences I've had working as a team, what comes to mind is Techopedia, the sense of satisfaction and the sense of accomplishment that comes out of hard work, stress, and lots of laughter is truly incredible.

For the entire year, all we (the council) could think about was how we could shatter the bar that we set a year earlier, and each year when we did, the confidence I earned myself and the confidence we acquired in our team was the most prized part of it all.

One factor that I learned in my tenure of two years in IEEE SIESGST was that when we take a position or a responsibility we have to commit, to ourselves and to the members of the team, to do "our part" and the rest of everything else will fall into place. A special gratitude to Prof. Biju Balakrishnan, the pillar of IEEE SIESGST, who has helped IEEE SIESGST reach such heights. Finally, best wishes to the incoming council for their tenure, hope you will make our student body shine even brighter. Go IEEE!

~Parvathy Nair
WiE Chairperson, 2023

EXPLORING THE POWER OF POWER BI

Power BI has rapidly emerged as a leading business analytics solution, empowering users to visualize, analyze, and interpret data like never before. Power BI, developed by Microsoft, is a powerful business intelligence tool designed to help businesses analyze data and share insights. With its intuitive interface and robust features, Power BI enables users to transform raw data into meaningful visualizations and reports. It is a powerful business analytics tool designed to transform raw data into meaningful insights and actionable intelligence. In this comprehensive exploration, we delve into the capabilities, features, and impact of Power BI, unlocking its potential to drive informed decision-making and propel businesses towards success.

Understanding Power BI:

At its core, Power BI is a suite of business analytics tools that allows users to connect to multiple data sources, transform raw data into meaningful information, and visualize insights through rich, interactive dashboards and reports. Its versatility lies in its ability to handle both structured and unstructured data, whether stored in traditional databases, cloud-based platforms, or even Excel spreadsheets.

Features and Capabilities:

1. **Data Connectivity:** Power BI offers seamless connectivity to a myriad of data sources, including SQL databases, Excel files, cloud services (such as Azure, Google Analytics, Salesforce), and even web pages. This flexibility enables users to access and analyze data from virtually anywhere, consolidating disparate datasets into a single, unified view.

2. **Data Preparation:** The process of data preparation, often a time-consuming bottleneck, is streamlined with Power BI's intuitive data modeling capabilities. Users can easily clean, transform, and shape data using a simple, drag-and-drop interface, eliminating the need for complex coding or scripting.

3. **Visualization:** Arguably one of Power BI's most compelling features is its robust visualization toolkit. With a vast library of pre-built visualizations – including bar charts, line graphs, maps, and scatter plots – users can create compelling, interactive dashboards that bring data to life. Customization options abound, allowing users to tailor visuals to their specific needs with ease.

4. **Advanced Analytics:** Beyond basic reporting and visualization, Power BI offers advanced analytics capabilities powered by machine learning algorithms. From predictive forecasting to sentiment analysis, users can uncover deeper insights and unearth valuable trends hidden within their data.

5. **Collaboration and Sharing:** Power BI fosters collaboration and knowledge sharing within organizations through its seamless integration with Microsoft Teams and SharePoint. Users can publish reports to the Power BI service, share dashboards with colleagues, and collaborate in real-time, ensuring that insights are disseminated across the organization efficiently.

6. **Mobile Accessibility:** In an increasingly mobile-centric world, Power BI's native mobile app allows users to access insights anytime, anywhere, from any device. With responsive design and offline capabilities, users can stay informed and make decisions on the go, further enhancing productivity and agility.

EXPLORING THE POWER OF POWER BI

Real-World Applications:

The versatility of Power BI extends across industries and use cases, revolutionizing how organizations analyze and leverage data. From retail and e-commerce to healthcare, finance, and manufacturing, businesses of all sizes and sectors are harnessing the power of Power BI to drive innovation, optimize operations, and gain a competitive edge.

1. Sales and Marketing Analytics: Sales teams can leverage Power BI to track key performance indicators (KPIs), monitor sales trends, and identify opportunities for growth. By analyzing customer demographics, purchasing behavior, and market segmentation, marketing departments can tailor campaigns more effectively and maximize ROI.

2. Financial Reporting: Finance departments rely on Power BI to streamline financial reporting processes, consolidate data from disparate sources (such as ERP systems and accounting software), and gain insights into cash flow, profitability, and budget variance. Real-time dashboards provide stakeholders with a holistic view of financial performance, enabling timely decision-making and risk management.

3. Supply Chain Optimization: In the manufacturing and logistics sector, Power BI enables organizations to optimize supply chain operations, forecast demand, and identify bottlenecks or inefficiencies. By analyzing inventory levels, production schedules, and transportation costs, businesses can minimize costs, improve resource allocation, and enhance customer satisfaction.

4. Healthcare Analytics: Healthcare providers leverage Power BI to analyze patient data, track clinical outcomes, and identify patterns that can improve patient care and operational efficiency. From population health management to revenue cycle analysis, Power BI empowers healthcare organizations to deliver better outcomes and drive healthcare innovation.

Conclusion:

Power BI stands as a beacon of innovation, empowering organizations to unlock the full potential of their data and drive informed decision-making. With its intuitive interface, robust features, and seamless integration capabilities, Power BI has become an indispensable tool for businesses seeking to thrive in an increasingly competitive landscape.

~Vaishali Mangrulkar
WiE Incharge, IEEE SIES GST

TEMPERATURE: CREATIVITY IN THE AGE OF AI



Have you even been so hot or so cold that it's impossible to think about anything else?

Temperature, in its deceptive simplicity, sets the stage for much of our daily life. It holds power over our comfort, our concentration, and even our creative process. What does it mean to be at the 'perfect temperature'? And how can we find that sweet spot so that we thrive creatively in every climate.

We don't usually associate creativity with comfort. In fact, we often teach people to "get out of your comfort zone" to generate innovative ideas. But creativity operates more often than not from inside one's comfort zone. The difference is that people feel comfortable and uncomfortable in different creative climates.

In fact, according to The American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE), thermal comfort is defined as "the condition of mind that expresses satisfaction with the thermal environment and is assessed by subjective evaluation."

The dynamic nature of 'temperature' in AI models invites an intriguing parallel to our human capacity for creative thinking and our individual comfort zones.

What if we were to think about the rules that structure our creative endeavors in the analog world in a similar way to how computer scientists write the algorithms that structure Generative AI systems? We can write rules like recipes that operate at a low temperature, producing the same results every time. Or we can subject ourselves to the highest temperature system - the laws of chance, opening ourselves up to the whims of serendipity and the opportunities brought to us through chaos.

As we come to understand what aspects of the creative process can be synthesized by machines, let's take the opportunity to learn about how to structure the rules in human systems recognizing the complex dynamic between temperature and thermal comfort.

As for me, well....some like it hot.

This process of widening and narrowing the field of vision is what computer scientists call temperature, and is used as a way of regulating the creative process in machines to generate new content. In fact, generative deep learning, according to David Foster is all about generating outcomes that are similar to, but not identical to the training data. "It is our goal to build a model that can generate new sets of features that look as if they have been created using the same rules as the original data," which means that generative models are probabilistic not deterministic, by design. (Foster, 2023, p.24). The dynamic nature of 'temperature' in AI models invites an intriguing parallel to our human capacity for creative thinking and our individual comfort zones.

TEMPERATURE: CREATIVITY IN THE AGE OF AI

“Creativity exists on a spectrum, not a switch between order and chaos.”



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Lori Mazor, CEO of SYNTHETIVITY, is a leading voice in Generative AI executive education. With a background in architecture and 25 years in higher education, holding degrees from Wellesley, Yale, and NYU, she has trained over 5,000 professionals, including many top executives, in AI technology. Lori is recognized on LinkedIn's Top Voices in Creativity and Innovation list, ranks among the Top 100 AI Artists, and writes the 'Humans of AI Newsletter.' She is the author of the upcoming book "Temperature: Creativity in the Age of AI." Her expertise in technology and innovation makes her a sought-after speaker and thought leader.

~Lori Mazor
CEO of SYNTHETIVITY

CHANDRAYAAN'S JOURNEY

India has achieved several milestones over the years, whether it be economically or technologically. One such milestone is the Chandrayaan-3 mission. Although it was the third Moon mission by ISRO, it has achieved the position of being the first of its kind in the world. Chandrayaan-1 was the first deep space mission and the first trip to the moon by India, launched on 22 October 2008, to explore the surface of the moon with scientific goals to study the chemical, mineralogical and photogeologic mapping of the Moon. The mission was concluded when communication with the spacecraft was lost on 29 August 2009.

Further, the Chandrayaan-2 mission was successfully launched on 22 July 2019. Chandrayaan-2 was launched to study surface geology, composition and exospheric measurements of the Moon. The space agency lost contact with the lander just 400 meters away from the landing surface causing a crash landing. The objective of the second lunar mission was to make a soft landing on the lunar surface, but it sadly crashed on 7 September 2019. The measurements recorded in this mission aimed to enhance upon the understanding built from previous lunar missions.

Chandrayaan-3 was launched on 14 July 2023 and touched down on the Moon's south polar region on 24 August 2023. From liftoff to touchdown, it took about 40 days to place Chandrayaan-3 on the lunar surface. All the space programs in the world were specifically aiming to land on the south pole of the moon because the Moon's south pole has the specific advantage of being less illuminated by the Sun and a lot of scientific discoveries are likely to be made in that region.

One major problem with the south pole of the moon is that it is full of craters and deep trenches. ISRO overcame all challenges by monitoring speed and direction, identifying the right landing site and maintaining communication, as learnt from the previous moon landing errors.

This time, Chandrayaan was designed in such a way that even if the sensors failed or the engine failed, it would land on the lunar surface, just with the propulsion system working well.

A successful touchdown marked a huge achievement for ISRO, placing us in a small group of nations that have landed spacecraft on other worlds. Beyond this milestone, Chandrayaan-3 has technologies to demonstrate and science to perform.

~Shalini Chaudhary



"GPT, A GENIE TRYING TO GET OUT OF THE BOTTLE?"

In the past 4 years, there has been exponential growth in the development of AI technologies. The rapid advancement of artificial intelligence has brought about significant developments across multiple fields, from healthcare and finance to agriculture and energy. Individuals are capable of effortlessly engaging with these technologies and have begun to utilize them for beneficial purposes. But is this modern AI a latent danger? Will it take over the entire human world?

So basically, GPT is a "Generative Pre-trained Transformer" which is actually a language-based model built on top of a neural network. GPT has had many previous versions including 1,2,3,3.5 and the latest one released was GPT 4. While there wasn't a huge craze around GPT-3 initially, its successor GPT-3.5 gained significant popularity. In the GPT-3.5 model they added more datasets as compared to the previous ones. One of them being codex which is a model trained on programming code which indirectly induced a power of reasoning to the whole model. It became very popular among coders who used it to get solutions for the problem statements that they came across.

The previous version had the data but couldn't understand the actual requirement. One of the most major improvements in GPT-3.5 was that it was more efficiently able to understand the job that it was assigned to it. They used a method called human labeling where the model would predict multiple answers to the presented question and a human would select the answer which seemed to be the most reasonable. This made the answers of the model very much accurate. In addition to this, reinforcement learning was utilized, which led to significant improvements.

The overall development in this sector has indirectly led to an increase in human productivity, efficiency, and precision. AI systems are capable of analyzing vast amounts of data and making complex decisions with ease. The error rate in the output generated by AI is significantly lower when compared to humans. Additionally, the ease of accessibility and availability of AI systems plays a crucial role in their success. AI is not just a tool for enhancing productivity and efficiency - it is also transforming the way we create and experience art.

Despite its numerous benefits, AI also has its downsides. It has become increasingly difficult to distinguish between AI-generated content and human-generated content, leading to a surge in plagiarism. Additionally, AI can be disruptive and lacks transparency, leaving users with little understanding of what happens behind the scenes. The strength of AI can also be exploited for nefarious purposes, such as cyber-attacks and autonomous weapons.

To answer the ultimate question of whether AI will replace humans, the answer is no. While AI can compete with human intelligence, it cannot surpass it. Imagination and intuition are some attributes that AI can barely possess, and it has limited ways to present the information it has. Humans possess numerous attributes apart from intelligence that cannot be imparted to an AI. At the moment, we may be secure, but the unpredictable nature of the future means that anything could happen!

~Parth Vinod Dalvi

NAVIGATING THE SYMBIOSIS OF AI AND HUMAN COGNITION

In the ever-evolving AI landscape, our relationship with this technology prompts both fascination and concern. This article aims to unravel the intricate dynamics between AI and the human mind, steering away from sensationalism and towards a subtle exploration.

AI, functioning as an augmentative tool, has undeniably revolutionized various sectors, from healthcare to education. However, amidst the undeniable benefits, questions arise about the potential erosion of cognitive autonomy, delving into the delicate balance of leveraging AI for enhanced problem-solving while preserving the essence of human decision-making and critical thinking.

Beyond practical applications, moral questions surface, particularly in relation to neurological and brain-like machine interfaces. Identity and privacy concerns emerge with the incorporation of AI into cognitive processes. It is crucial that we take into account how these interfaces may affect the fundamental qualities of mankind as we traverse these unexplored areas.

Furthermore, the cognitive load induced by the constant information influx from AI systems warrants attention, addressing concerns related to information overload, stress, and the potential long-term effects on mental health. This article encourages a dialogue on responsible AI consumption.

In conclusion, this article emphasizes the pivotal role of ethical frameworks and regulations in guiding AI development and integration into our lives.

Throughout this exploration, the importance of ethics and regulations is highlighted as a crucial aspect of mitigating the negative impact of AI on the human mind. A balanced perspective is encouraged to engage in constructive dialogue, acknowledging both the promises and challenges posed by AI integration into our lives.

~Nidhi Kavi



INDIA MAKES HISTORY: CHANDRAYAAN-3 SUCCESSFULLY LANDS ON THE MOON'S SOUTH POLE

On August 23, 2023, India achieved a monumental feat with the successful soft landing of Chandrayaan-3 on the lunar south pole, becoming the first nation to land in this previously unexplored region. This historic mission marks a significant milestone in India's space exploration journey and opens doors to numerous scientific discoveries.

Chandrayaan-3, the successor to the Chandrayaan-2 mission, consisted of a lander named Vikram-3 and a rover called Pragyan. After a meticulous launch and orbit adjustments, the lander embarked on a thrilling descent towards the moon's south pole, a technically challenging endeavour due to the uneven terrain and lack of sunlight. Despite these hurdles, Vikram-3 touched down flawlessly, earning India a place among the elite club of nations with lunar landings.

The mission's scientific objectives focus on understanding the unique lunar south pole, which harbours fascinating characteristics like frozen water deposits in permanently shadowed craters. Pragyan, the six-wheeled rover equipped with cutting-edge instruments, will traverse the lunar surface, gathering data on the composition, mineralogy, and temperature of the region. This information will shed light on the formation and evolution of the moon and potentially offer clues about the presence of other elements essential for life.

Beyond scientific advancements, Chandrayaan-3 also holds immense strategic and economic significance. It showcases India's growing prowess in space technology, boosting national pride and confidence. This successful mission positions India as a major player in the global space race and paves the way for future collaborations and partnerships.

However, the challenges don't end with the landing. Vikram-3 and Pragyan face the extreme temperature fluctuations and harsh radiation environment of the south pole. The mission duration is limited to around 14 days, and maximising scientific output within this timeframe is crucial. Despite these challenges, the Indian Space Research Organisation (ISRO) is well-equipped with expertise and experience to navigate these hurdles and make the most of this historic opportunity.

Chandrayaan-3 stands as a testament to India's unwavering commitment to pushing the boundaries of scientific exploration. This mission inspires a generation of young scientists and dreamers, showcasing the power of human ingenuity and perseverance. As the rover traverses the lunar south pole, the world watches with anticipation, eager to witness the next chapter in this breath-taking lunar saga.

~Atharv Dhupkar

COMFORT MEETS HEALTHCARE

Over the years, technology in healthcare has significantly improved from hospitals to private care, yet there are a few things that will pose as a con in the healthcare system. One of them is that humans cannot physically monitor one's health 24/7, so wearable sensors, or biosensors, were introduced to overcome this problem. Biosensors are designed in such a way that they can be worn in many forms, such as tattoos, gloves, clothing and implants.

These wearable sensors with integrated functions for measuring identified markers solve several noticeable problems in the health, medical and sports fields. Various biochemical markers in the human body, such as saliva, sweat, skin, and tears are recorded and calculated using mobiles or any portable device. To measure human physical parameters such as sleep and tremor for real-time monitoring and collection of long-term information, motion state sensors are mainly used.

A typical biosensor is a composition of two basic functional units, i.e., a biorecognition element or bioreceptor and a physicochemical transducer. The bioreceptor is responsible for selectively recognizing the target analyte and the transducer is responsible for the conversion of a biorecognition event into a measurable signal.

Biosensors were made to provide security along with comfort so that it could be included in everyone's personal lifestyle without interfering in it. From head to toe, whether it be your wrists, eyes, head, chest or anywhere else, a biosensor can be worn over it to monitor your health. It records data and can accordingly send alerts or emergency alerts to paramedics and family members.

Day by day the usage of wearable sensors is increasing due to it being convenient and affordable. The future of wearable biosensors only seems to be positive and brighter and a great example of human excellence.

~Shalini Chaudhary

NVIDIA'S INNOVATIONS PROPEL THE FUTURE OF GRAPHICS AND AI

NVIDIA, a powerhouse in the world of graphics processing units (GPUs), continues to reshape the technological landscape with its cutting-edge advancements. Renowned for its GPU architecture, NVIDIA plays a pivotal role in revolutionizing not only gaming but also artificial intelligence (AI) and scientific computing.

At the heart of NVIDIA's success is its dedication to developing powerful GPUs that cater to diverse needs. The company's latest architectures, like Ampere, have redefined performance benchmarks, enabling users to experience unparalleled graphics capabilities. The introduction of technologies such as ray tracing and DLSS (Deep Learning Super Sampling) has further elevated the gaming experience by delivering realistic visuals and improved performance.

Beyond gaming, NVIDIA's GPUs have become indispensable in the field of AI. The parallel processing power of GPUs accelerates AI model training, making them a cornerstone in machine learning applications. The NVIDIA CUDA platform, a parallel computing model, facilitates the utilization of GPU resources for general-purpose computing, unlocking tremendous potential for researchers and developers working on complex algorithms.

NVIDIA's Tensor Cores, a specialized processing unit for AI workloads, has become integral in deep learning tasks. This hardware innovation, coupled with software frameworks like TensorFlow and PyTorch, empowers the AI community to tackle challenges ranging from image recognition to natural language processing.

The company's commitment to sustainability is also evident through its advancements in energy-efficient GPU designs.

Technologies like NVIDIA's Max-Q allow for optimal power consumption without compromising performance, making GPUs more environmentally friendly.

In conclusion, NVIDIA's relentless pursuit of innovation continues to shape the future of graphics and AI. As technology evolves, so does NVIDIA, reaffirming its position as a trailblazer in the world of GPUs and pushing the boundaries of what's possible in gaming, AI, and beyond.

None of this would have been possible without the support of our respected Adviser Dr. P V Parameswaran, principal Dr Lakshmi Sudha and our hod dr Preeti Hemnani. Are you extended my warm records and thanks to them.

I would also like to thank and appreciate the team of IT SIS gst and the ones behind 'TECHNOZINE'. I wish success to each one of you all your future endeavors.

-Tejraj Gujar

THE IPHONE

In 2007, a sleek black rectangle redefined what a phone could be. No longer a clunky tool for calls and texts, it became a portal to a universe of information, entertainment, and connection. This was the iPhone, and it ushered in a decade that reshaped not just technology, but how we live, work, and interact. The first iPhone was audacious in its simplicity.

A smooth touch screen replaced the cluttered buttons of its predecessors. Apps, once mere curiosities, became gateways to endless possibilities. Scrolling through news feeds, capturing moments with a pocket camera, navigating uncharted streets — the iPhone made it effortless and intuitive. It wasn't just a phone; it was an extension of ourselves. Each iteration pushed the boundaries. Cameras rivaling point-and-shoots, screens that glowed like miniaturized cinemas, processors that crunched data like tireless workhorses. The iPhone became a canvas for creativity, a platform for entrepreneurs, and a lifeline for families. It documented history in real-time, fueled social movements, and brought the world closer, one FaceTime call at a time. But the iPhone's impact transcended the technical aspect. It redefined communication.

Texting became the lingua franca of a generation, emojis adding color to our silent conversations. Social media, once a niche platform, exploded into a global phenomenon, fueled by the constant hum of notifications. We shared our lives, dreams, and vulnerabilities, all through the tiny screens in our palms. Of course, the iPhone wasn't without its critics. Concerns about addiction, privacy, and the digital divide were rightfully raised.

The sleek device became a symbol of both progress and alienation, a constant reminder of the delicate balance between convenience and control.

Yet, as we stand at the precipice of a new decade, the iPhone's legacy is undeniable. It democratized technology, making it accessible not just to tech geeks, but to everyone. It blurred the lines between work and leisure, information and entertainment, self and society. It wasn't just a phone; it was a mirror reflecting the changing contours of our times. Looking ahead, the iPhone's journey is far from over.

Advancements in artificial intelligence, augmented reality, and foldable screens promise an even more immersive and personal future. But one thing remains certain: the iPhone, for all its complexities, has irrevocably altered the landscape of our lives. It is a testament to human ingenuity, a window to a connected world, and a constant reminder that the most revolutionary things often come in the smallest packages.

So, as you hold your iPhone, remember, it's not just a device. It's a decade of transformation in your pocket, a story etched in glass and silicon, a testament to the transformative power of a simple idea: to put the world at your fingertips. But the iPhone was not just a technological breakthrough. It also fundamentally changed industries and business models. The App Store upended software distribution and monetization. On-demand services like Uber leveraged the iPhone's ubiquity to create new digital marketplaces. And social media companies like Instagram built multi-billion dollar advertising empires on the back of mobile usage.

THE IPHONE

For users, the iPhone brought internet services into the intimacy of their pockets. Maps and navigation, once clunky and limited, became seamless guides around the world. The music went from discs and downloads to infinite streaming libraries. Cameras transformed into powerful imaging tools, enabling anyone to become a photographer. Of course, no technology is perfect. The iPhone brought with it real concerns about distraction, misinformation, and privacy.

But it also empowered activism, creativity, and connection, in ways we are still discovering. Looking back, it's clear the iPhone didn't just change the tech landscape. It changed us. Our relationships, identities, memories, and even language show its influence.

Once a shiny gadget, it became part of who we are. So as we enter the next decade, take a moment to appreciate the small marvel in your hand. It's more than just aluminum and code. It's a portal, a palette, a time machine connecting who we once were with who we're still becoming. The story continues, on these brilliant shape-shifting screens that seem to hold our whole world.

~Atharva Bhosale



QUANTUM COMPUTING: A QUANTUM LEAP INTO THE FUTURE

Quantum computing is a disruptive force in the quickly changing field of technology, Pushing us past the limitations of classical computing and into a world of previously unimaginable possibilities. This quantum leap is an evolutionary change that calls for a redefinition of how we process information, leading to creativity and leaving a lasting imprint on the direction of technology.

Imagine a society in which solving complicated puzzles becomes second nature and calculations that once took centuries are finished in a matter of seconds. With its revolutionary ideas of combination and qubits, quantum computing holds the key to unlocking the mysteries of problems that classical computers have deemed impossible. It's about solving the universe's riddles and expanding our knowledge of the world, not just about speed.

Quantum computing has far-reaching effects that go well beyond conventional computational tasks. The potential applications are as diverse as the quantum state itself, ranging from climate modeling and optimization issues to drug discovery and materials science. Global co-operation amongst quantum scientists and researchers is about to open new vistas for understanding and resolve issues that have long stumped the most brilliant minds in their domains.

Admittedly, there are many theoretical, practical, and technological barriers that stand in the way of the widespread adoption of quantum computing. However, it's precisely these difficulties that add to the fascinating experience.

With the rare chance to influence the future, we students are at the forefront of this quantum revolution.

~Shalini Chaudhary

DIGITAL IMAGE PROCESSING

Abstract—Image processing involves changing the nature of an image to enhance its pictorial information for human interpretation and autonomous machine perception. Digital image processing is a subset of the electronic domain where the image is converted into an array of small integers, called pixels, representing a physical quantity such as scene radiance. This information is stored in digital memory and processed by a computer or other digital hardware. Interest in digital image processing methods arises from two principal application areas: improving pictorial information for human interpretation and processing image data for storage, transmission, and representation for autonomous machine perception.

Edges characterize boundaries, and edge detection is one of the most challenging tasks in image processing; thus, it is a problem of fundamental importance in this field. The paper investigates different steps of digital image processing. For example, a high-speed non-linear adaptive median filter implementation is presented. The Adaptive Median Filter serves the dual purpose of removing impulse noise from the image and reducing distortion in the image.

The Image Processing Toolbox software is a collection of functions that extend the capabilities of the MATLAB numeric computing environment. This toolbox supports a wide range of image processing operations on the given image.

Keywords - Image Enhancement, Feature Extraction.

I. INTRODUCTION

With the advent of the electronic medium, especially computers, society is increasingly dependent on computers for processing and transmission of information. Computers play a pivotal role, opening a new age for humankind known as the technological world. Computer vision has become a part of everyday life, and one of its essential goals is achieving visual recognition ability comparable to that of humans. Among many recognition subjects, face recognition has garnered considerable interest and attention from researchers over the last two decades. This interest stems from its potential applications in areas such as surveillance, secure trading terminals, Closed Circuit Television (CCTV) control, user authentication, Human-Computer Interface

(HCI), intelligent robots, and more. Various face recognition methods have been proposed and some related face recognition systems have been developed. This paper compares the computational model of face recognition, which is fast, reasonably simple, and accurate in constrained environments such as offices or households. These approaches offer advantages over other face recognition schemes in terms of speed, simplicity, learning capacity, and relative insensitivity to small or gradual changes in the face image.

The initial step in face recognition involves acquiring faces in visual media. Face acquisition for recognition purposes requires not only face detection but also precise alignment before matching faces. This alignment is performed automatically through pose estimation and landmark localization.

DIGITAL IMAGE PROCESSING

II. DIFFERENT APPROACH

Image Processing: Digital image processing refers to the processing of digital images by a digital computer. It is motivated by three major applications. The first one is the improvement of pictorial information for human perception, aiming to enhance the quality of the image for a better visual experience. The second application is for autonomous machine applications, with various industrial uses, particularly in quality control and assembly automations. The third application involves efficient storage and transmission. For example, when storing images on a computer, techniques are used to minimize the required disk space.

Image processing encompasses any form of signal processing where the input is an image. Digital image processing is the study of representing and manipulating pictorial information by a computer.

The Image Processing Toolbox supports images generated by various devices, including digital cameras, frame grabbers, satellite and airborne sensors, medical imaging devices, microscopes, telescopes, and other scientific instruments. It can visualize, analyze, and process these images in different data types, including single- and double-precision floating-point and signed or unsigned 8-, 16-, and 32-bit integers.

There are several ways to import or export images into and out of the MATLAB environment for processing. The toolbox can use the Image Acquisition Toolbox (available separately) to acquire live images from web cameras, frame grabbers, DCAM-compatible cameras, and other devices. Additionally, with the Database Toolbox (also available separately), it can access images stored in ODBC/JDBC-compliant databases.

MATLAB supports standard data and image formats, including JPEG, TIFF, PNG, HDF, HDF-EOS, FITS, Microsoft Excel, ASCII, and binary files. It also supports multiband image formats, such as LANDSAT. Low-level I/O functions enable the development of custom routines for working with any data format. The Image Processing Toolbox supports a variety of specialized image file formats. Regarding image input, the system requires specific types of images. Computer algorithms process these images, yielding two types of images: a noisy image and a magnitude image.

Size of images: There are two sizes of images that we can use, that are (512 X 512) inches, (256 X 256) inches, and (1024 X 1024) inches.

Image file formats: A Variety of image file formats are available at present. Like TIFF, JPEG, GIF, BMP, etc. We mainly using TIFF and JPEG here, these are explained as follows:-

TIFF- stands for Tagged Image File Format. Its extension is recognized both as „tif“ and „tiff“. These are the file formats used for storing images, including photographs and line art. It grew to accommodate greyscale images, then colour images. Today, it is a popular format for high- colour-depth images, along with JPEG.

JPEG- stands for Joint Photographic Experts Group. It has „.jpg“, „.jpeg“ as the allowed extensions. It is the most common format for storing and transmitting photographic images on the World Wide Web and is a commonly used method of compression for photographic images.

Images types: Four types of images are there:

Intensity images – An intensity image is a data matrix whose values represent Intensities within some range. For the elements of class uint8 or class uint16 of an intensity image, the integer values lie between (0,255) and [0, 65535], respectively. And if the image is of class double, then the associated values are floating-point numbers. Conventionally, the intensity images with scaled, class double data type have a range of [0, 1]. In MATLAB, an intensity image is stored as a single matrix, with each element of the matrix corresponding to one image pixel.

DIGITAL IMAGE PROCESSING

Binary images- A binary image is a logical array of 0s and 1s. Pixels with the value 0 are displayed as black;

pixels with the value 1 are displayed as white. In MATLAB, a binary image must be of class logical that is why the intensity images that happen to contain only 0's and 1's are not taken as binary images[6].

Resolution: Similar to one-dimensional time signal, sampling for images is done in the spatial domain, and quantization is done for the brightness values. In the Sampling process, the domain of images is divided into N rows and M columns. The region of interaction of a row and a Column is known as pixel. The value assigned to each pixel is the average brightness of the regions. The position of each pixel is represented by a pair of coordinates (xi, xj).

The resolution of a digital signal is the number of pixel is the number of pixel presented in the number of columns \times number of rows. For example, an image with a resolution of 640 \times 480 means that it display 640 pixels on each of the 480 rows. Some other common resolution used is 800 \times 600 and 1024 \times 728. Resolution is one of most commonly used ways to describe the image quantity of digital camera or other optical equipment.

The resolution of a display system or printing equipment is often expressed in number of dots per inch. For example, the resolution of a display system is 72 dots per inch (dpi) or dots per cm. Pre and Post-Processing Images: Image Processing Toolbox provides reference-standard algorithms for pre-and post processing tasks that solve frequent system problems, such as interfering noise, low dynamic range, out-of-focus optics, and the difference in color representation between input and output devices.

Image processing operations: Image processing operations can be roughly divided into three major categories:

- A) Image Restoration
- B) Image Enhancement
- C) Remove "noise" from an image
- D) Remove motion blur from an image.
- E) Image Compression
- F) Image Segmentation
- G) Feature extraction
- H) Image transformation

A) Image Restoration: Restoration takes a corrupted image and attempts to recreate a clean image. As many sensors are subject to noise, they results in corrupted images that don't reflect the real world scene accurately and old photograph and film archives often show considerable damage.

Thus image restoration is important for two main applications:

- a) Removing sensor noise,
 - b) Restoring old, archived film and images.
- It is clearly explained in the figure down.



III. RESULT AND DISCUSSION

The Image processing helps in the improvement of pictorial information, which is easily interpreted by human and image can easily stored, transmitted and represented for autonomous machine perception. The different steps of digital image processing can be done by implementation of a high-speed non-linear Adaptive median filter. It also solve the dual purpose of removing the impulse noise from the image and reducing distortion in the image. The capability of the MATLAB numeric computing environment can be extended by Image Processing Toolbox.

DIGITAL IMAGE PROCESSING

IV. CONCLUSION

Here we discuss different steps of image processing, from the beginning where you taken simple image to every processing steps of digital image processing. This discussion evaluates the optional steps for each stage. In this paper the fast, simple and accurate computational model of face recognition is given. These approaches have advantages over the other face recognition schemes in its speed and simplicity, learning capacity and relative insensitivity to small or gradual changes in the face image the best you consider according to our objective .Like, different edge detection process is given here and each one have different characteristic. Similarly for feature extraction here two processes used name centriod (X, Y) and gabor filter technique. Whichever is considered is depend upon on our objective.

V. FUTURE SCOPE

We can implement the best algorithm to find best result in according with noised, blurred and many unwanted error contain in image. In image an important part is the compression. Image compression reduces the amount of data required to represent the image by using different transform so its important to reduce the data size

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~Shreyas Chandrashekhar Kulal

ACHIEVEMENT OF THE YEAR



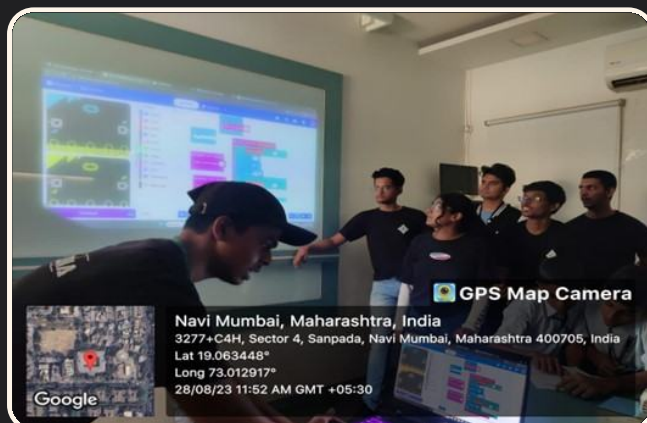
BEST STUDENT CHAPTER / SOCIETY AWARD

SIES Graduate School of Technology, Navi Mumbai has received the Best IEEE Student Society Chapter award for MTT-S society for the years 2022 and 2023 from IEEE Bombay Section. The award was for our commendable performance and admirable volunteering for the upliftment and betterment of IEEE Bombay Section.

EVENTS

STEM WORKSHOP:

IEEE SIESGST took an initiative to organize a STEM workshop aimed at providing underprivileged students with valuable knowledge and insights into technical aspects of education. Through this workshop, the students were introduced to various fields of study, and are now better equipped to identify their academic interests and strategies to facilitate their studies.



EVENTS

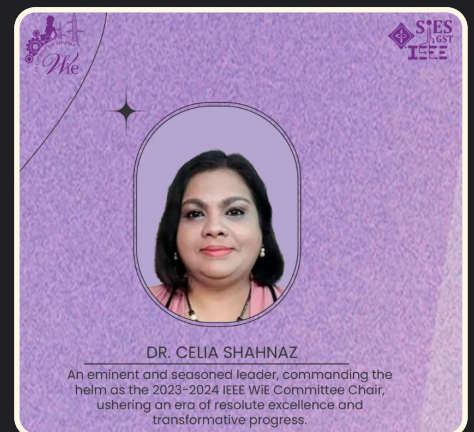
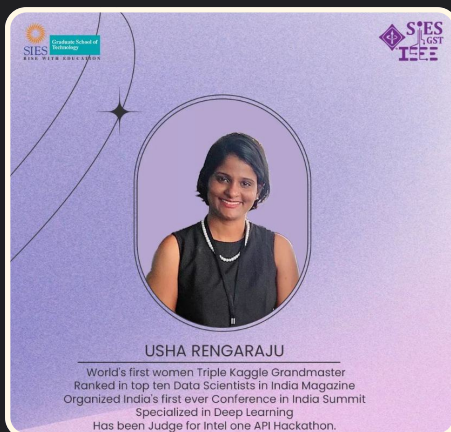
AFTER GRAD:

IEEE SIESGST's initiative is to conduct a series of YouTube podcast to help undergraduate students learn about different scenarios possible after their degree course and know more about content reviewing.



WiE:

Celebrate Women in Engineering, empower through inspiring stories, and encourage career advancement.



EVENTS

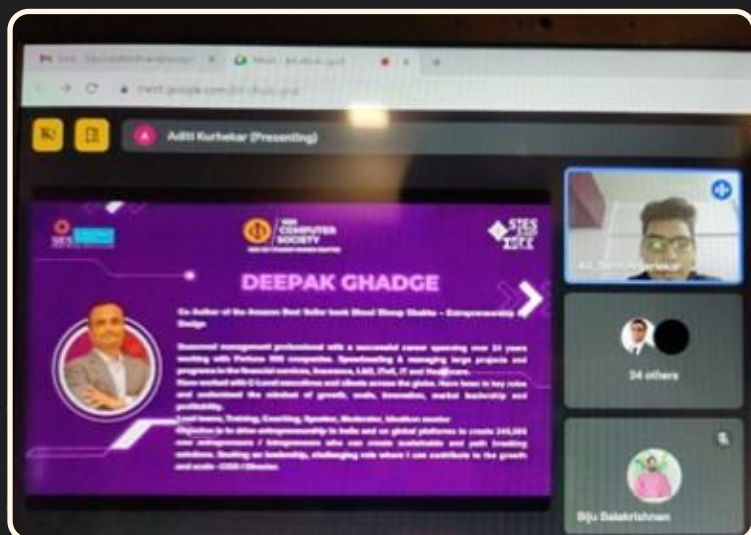
INNOVATION AND START-UP ECOSYSTEM:

The objective of organising a panel discussion on entrepreneurship and innovation is to empower participants with knowledge, skills, and inspiration that can drive their entrepreneurial aspirations, foster innovative thinking, and contribute to their personal and professional growth.



PROMPT ENGINEERING – CRAFTING COMPELLING CONVERSATIONS

To explore the art of craft compelling conversations in the world of prompt engineering by revealing the secrets to effective communication in this dynamic field



EVENTS

EPSILON 2023:



The IEEE SIESGST with its chapters MTT-S and Computer Society and affinity Group WiE, conducted the Third iteration of its Symposium EPSILON 2023: ‘The Galaxy of Intelligence’. Epsilon 2023 was a three-day academic convention where the invited industry experts discussed their expertise in the field of ‘The Galaxy of Intelligence’, which was the theme extensively explored at this Symposium. The event ran along three tracks namely,

Track 1 - Nero AI under WiE

Track 2 - Computer Vision under Computer Society

Track 3 - Deep Space Communication under MTT-S

EVENTS

EPSILON 2023:

The first talk session, titled "The inner workings of AI created personality," was led by Mr. Pranjal Jain and focused on the topic of "Generative Adversarial Networks (GANs)" and "Neuro AI," showing Ethical Implications Computer Vision for Facial Expression and Character Animation and Motion Capture. It was continued by CS tracks Mr. Varun Ganjigunte Prakash, the session leader for this track, conducted the participants through a wide range of computer vision and deep learning topics in the session titled "Eyes on the Future." Day 1 concluded with the session led by Mr. Chaitanya Mandala under this track during the "About the Space" lesson, participants were introduced to Deep Space Communication, Deep Space Network, and Space Mission Management.



Day 2 was a hands-on workshop on three different tracks starting with WiE workshop demonstrating "The Creation: AI-Generated creation" process while presenting digital artwork created by Ms. Lori Mazor. Followed by Setting Up the Environment: Introduction to Object Detection and Tracking was taught by Mr. Rupesh Mahore. "Mastering Computer Vision Techniques" Setting the Environment Model Training/Evaluation, and concluded with The presentation on Cosmic Connect (System design for space communication) was led by Mr. Archishman Guha, who also discussed Signal Chain and System Parameter Radar and Communication. Drone Space Communication and UAV System Digital Architecture.

EVENTS

EPSILON 2023:



Day 3 witnessed a series of panel discussions. The commencing panel exchanged their opinions on topic, 'Better Future: Neuro AI'. Equally engaging discussion was seen on the topic, 'From Vision to Visionary' in the second panel. The final and equally colloquy on the idea, "Space Future".



Epsilon 2023 turned out to be highly enlightening and interesting. We had 22 speakers join us from all over the globe over the course of the three days, with same goal of imparting knowledge on their particular specialty

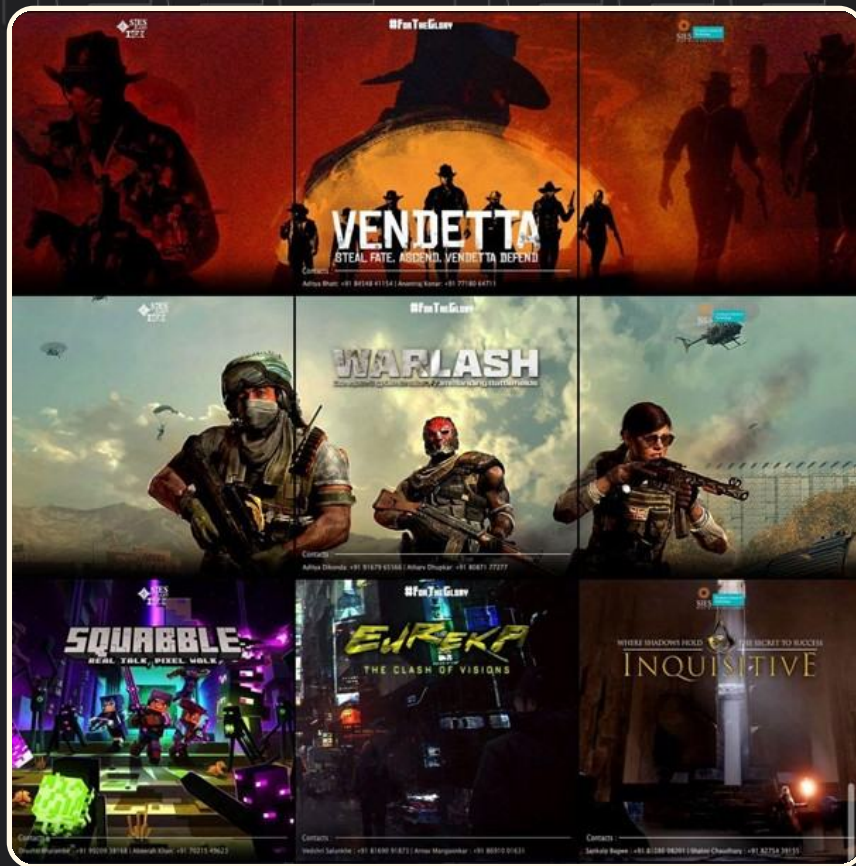
EVENTS

TECHOPEDIA LEVEL 12:



IEEE SIESGST celebrated the twelfth edition of our treasured national-level annual technical fest Techopedia from 1st to 3rd of February, 2024. 'PIXELS: Beyond The Console' was chosen as the theme to honour Techopedia's triumph over the previous 12 years. The entire fest consisted of 5 events in total viz. Squabble, Inquisitive, Eureka, Warlash, Vendetta. Participants were granted the opportunity to embark on a journey to travel through the challenging idea of Pixels. The top performers from all the events were allocated with exciting cash prizes and certificates.

EVENTS



SQUABBLE:

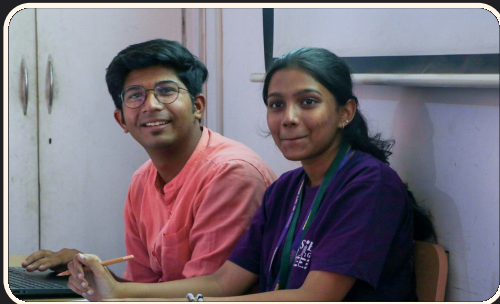
It is a National Level Debate Competition and a platform to showcase your oratory skills with a technical perspective which will consist of group discussion and one-on-one debate with time limitations. The participants will get to put forth their opinions on what our future might be like, covering all the possible technological, socio-economical, and cognitive aspects of the eventual millennium.



EVENTS

INQUISITIVE:

It is a National level Quiz Competition where the participants will get to validate their cerebral capacity by engaging in a quiz on the occurrences, technologies, advancements, and affairs of the present time. It is an attempt to provide a platform to all the participants throughout the nation to boost their technical knowledge.



Warlash:

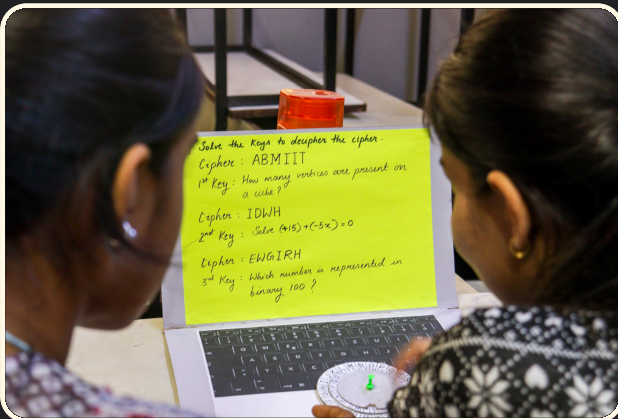
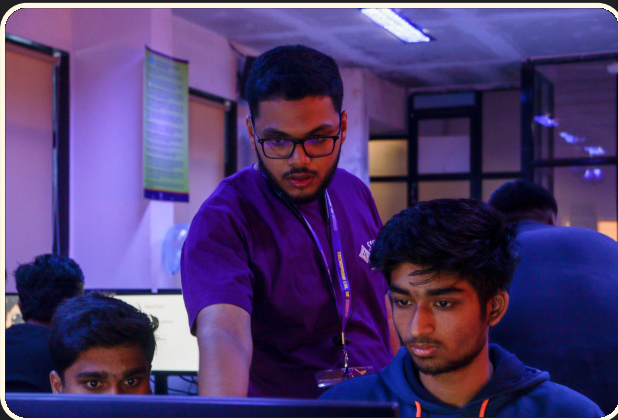
Immerse yourself in our tech forward TDM (Team death match) game, where rounds challenge with weaponry. Showcase individual skills, then forge futuristic alliances for the teamwork-centric round. Experience the ultimate showdown in this real-life gaming adventure, blending skill mastery and strategic partnerships for a high-tech thrill.



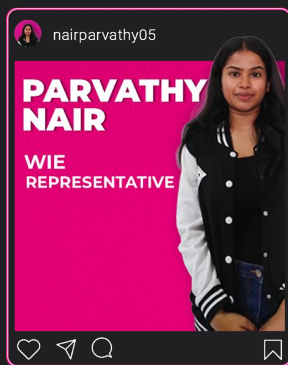
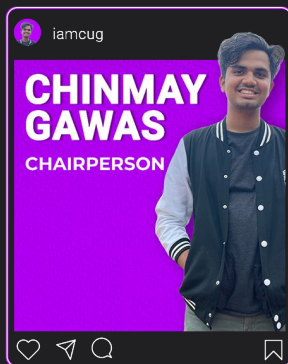
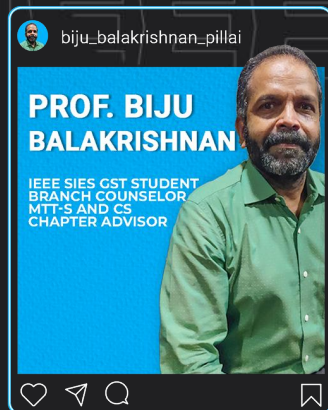
EVENTS

Vendetta:

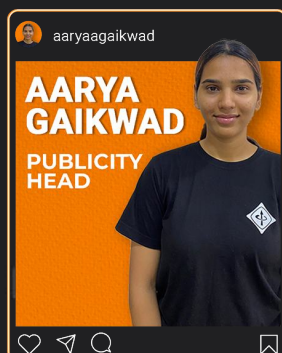
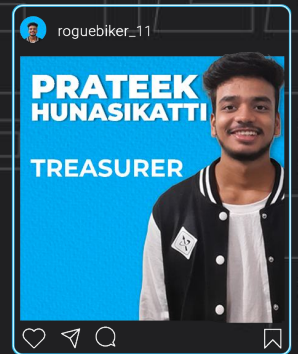
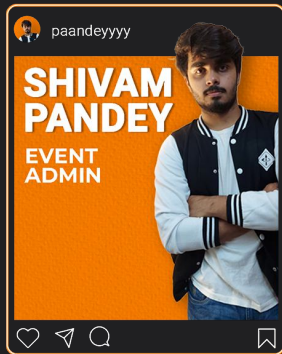
Into a world of academic mystery as clever minds embark on a daring quest to steal a valuable artifact hidden in our university. In disguise, participants solve puzzles, navigate deserted halls, and use logic to liberate the relic. An evening that blurs the lines between learning and adventure.



IEEE SIESGST COUNCIL WALL 2023-24



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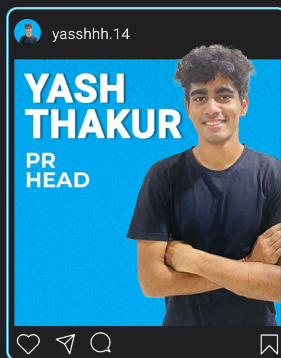
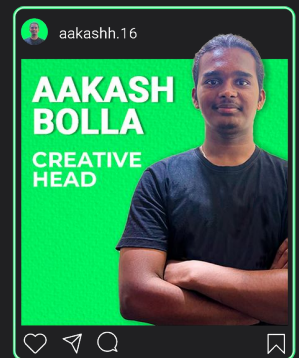
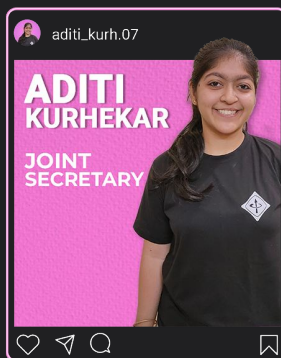
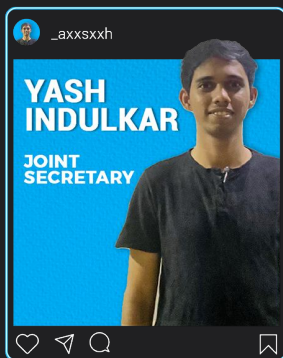
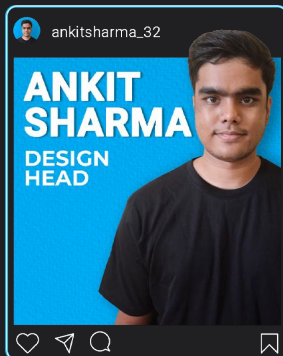


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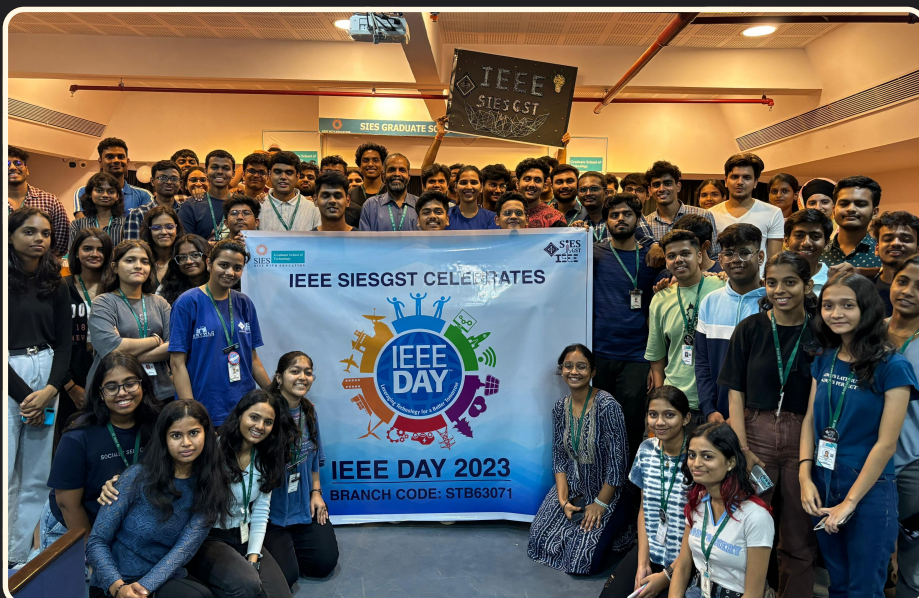


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FROM THE EDITORS' DESK



This magazine is a testament to the unwavering determination of each and every individual and serves as an affirmation of the accomplishments of the past. Our tenure was more than a series of events; it was a journey where we met all these fine people and became a part of the incredible family that is IEEE. We will be eternally grateful for all that we have received and for everyone who has been a part of it. This is the editorial team, signing off.....

Words are a powerful tool for shaping perspectives, fostering understanding, and driving positive change. Documenting every activity and success of the team and representing it on a professional level has been the primary role of the editorial team at IEEE SIESGST.

It takes a lot of dedication and a sense of responsibility to represent the team on a certain level, which we accomplished with immense enthusiasm and collective effort. We made every effort to accurately reflect the remarkable work done by the team. As we look back, IEEE has presented us with numerous opportunities that have broadened our horizons and allowed us to engage in diverse activities and events.

Above all else, we are honored to have had the opportunity to learn under the careful guidance of Prof. Biju Sir, who encouraged us every step of the way. Working with a group of extremely passionate individuals as a team was a wonderful experience for all of us.

**~ Anoushka Gaikwad, Secretary
Aditi Kurhekar, Yash Indulkar and
Chetana Dhongade, Joint-Secretaries**

CREDITS

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