



**IEEE-SIESGST STUDENT BRANCH PRESENTS** 

# TECHNOZNE

2020

REALM OF ETHICAL AI

02.03.2021 ISSUE. 5



WHY ETHICAL AI?
AI FACTS or MYTHS?
Women's Day Celebration
STEM Lectures
TECHOPEDIA 9.0
IEEE SIESGST SMART
VILLAGE PROJECT

To be a Premier Department in Electronics & Telecommunication Engineering

#### **MISSION**

- 1. To provide quality education satisfying the requirements of corporate world across diverse fields.
- 2. To develop life-long learning skills to cater to socio-economic needs.
- 3. To strengthen Industry-Institute Interaction to bridge the gap between academic andindustrial requirements.
- 4. To equip students with leadership and entrepreneurial skills.

# **Program Educational Objectives (PEOs)**

Graduates will be able to

- 1. Identify, formulate and solve engineering problems in the Industry, complying with ethical standards and societal needs.
- 2. Pursue higher studies and professional development courses leading to significant advancement in the field of specialization.
- 3. Apply technical concepts to develop applications and design products.
- 4. Exhibit leadership and entrepreneurial acumen in career.

# **About SIES GST**

The South Indian Education Society (SIES) was established in the year 1932. It is a pioneer in the field of education, knowledge and learning in this metropolis. The 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"

- SIES VISION

SIES Graduate School of Technology, an integral part of this well-established Community, started in the year 2002 is located in the list of an educational hub in Navi Mumbai imparting quality based technical education, offering four-year Bachelor of Engineering courses in Electronics and Telecommunication Engineering, Computer Engineering, Information Technology, Printing & Packaging Technology and Mechanical Engineering. 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.

SIES GST is now successfully accredited by NAAC.



The IEEE student chapter was established in the year 2006 in SIES GST. Ever since, it has seen a vast growth in the quality of the chapter as well as the intellectual growth of its students. It is one of the oldest student body of SIES GST which has been very active over the years in organizing various extracurricular activities, events, fest and workshops.

"It is a great platform to build technical skills"

"We don't see things as they are, we see them as we are".

- IEEE SIES GST ALUMNI

We aim to imbibe the latest technological advancement and knowledge in the young growing minds by organizing innovative workshops and events for all its students. Some of the various workshops organized under the chapter are drone workshop, Arduino workshop, ML workshop, FPGA workshop and many more.

IEEE SIES GST proudly presents its annual technical festival 'TECHOPEDIA' every year. In order to grab the attention and encourage the students to build on their technical knowledge, the chapter organizes three national-level events under the fest. They are INQUISITIVE (National level quiz competition), SQUABBLE (National level debate competition), TECHNOPOLY (competition for testing the student's basic electronic knowledge) and GOT ANY IDEA (National level poster making competition). This major event sees active participants from within the college and many more students from colleges across Mumbai and Navi Mumbai. The winners of each event are encouraged with cash prizes, certificates, and medals as a token of appreciation.

We as a chapter also focus on building the student's knowledge on the current developments and advancements by organizing various seminars, lectures, and guest lectures. We can proudly say that many of our own students have conducted many seminars successfully in recent times.

Apart from increasing the student's academic excellence, IEEE SIES GST also takes its students on Industrial visits to give them exposure and learning about the many evolutions taking place in the outside world industry.

As a whole, IEEE has helped in carving out various young peers not only in the field of technology but also in leadership. Year-by-year, the chapter has seen active participation and increase in interests in all its ventures, which has increased the morale of IEEE SIES GST by leaps and bounds.

In a nutshell, IEEE SIES GST would like to thank our honorable Principal, Dr. Atul Kemkar.

# FROM OUR BRANCH COUNSELOR:

It is an honor for me to present the 5th edition of the annual technical magazine 'TECH-NOZINE' of our very own IEEE student Branch.

I am indeed honored to hold the post of the IEEE branch counselor in SIES GST and I aim to encourage the young growing minds of our college by igniting the spark in them. The student chapter has indeed made me proud with the smooth functioning of the Executive Committee as well as organizing various events that would not have been possible without their cooperation and efforts.

'TECHNOZINE' is a log book showcasing the cumulative effort of the entire IEEE team and the minds who have worked behind the success of all events that have been conducted throughout this year. It also includes a plethora of technical articles written by our own students.

I am very glad that, the Microwave Theory and Techniques Society (MTT-s) is putting efforts to organize quality programs. I am also very proud to announce that this year we introduced the Women in Engineering affinity group to our IEEE Student Chapter.

None of this would have been possible without the support of our respected Advisor Dr. P V Parameswaran, in charge principal Dr. Atul Kemkar and our HOD Dr. Preeti Hemnani. I extend my warm regards and thanks to them. I would also like to thank and appreciate the team of IEEE SIES GST and the ones behind 'TECHNOZINE'. I wish success to each one of you for all your future endeavors.



- Prof. Biju Balakrishnan (IEEE Branch Counselor and MTT-S Advisor)



# FROM OUR HEAD OF THE DEPT.:

IEEE SIES GST, as a student branch, has flourished so pleasantly since its inception in the year of 2006. Having personally observed the shift in the student members' presence and approach, from being fairly timid in their first year to leading and organizing events in their subsequent semesters, I can say that IEEE has played a great part in the development of this rationale.

It is an absolute delight to hold the position of WiE Affinity Group Incharge along with being the HOD of EXTC Department which allows me to be in association with the student members and guide them. It is incredible how throughout the year, IEEE SIES GST conducts events, workshops and other technical seminars, more so since the pandemic, virtually. The highlight of IEEE for the year 2020 is the 9th edition of the yearly technical fest Techopedia 9.0, which was entirely online. And it was fascinating to look at how the IEEE Council and the volunteers came together and made this fest a success story with their innovative ideas and a positive outlook.

I congratulate the entire IEEE Council for successfully unveiling the 5th edition of **Technozine** which broadly covers the intriguing journey of this team throughout the year along with thought-provoking article pieces written by our students. I wish each and every student member the best for all their future ventures.

- Dr. Preeti Hemnani (HOD, EXTC Dept., SIESGST and WiE Advisor)





# **WORDS BY CHAIRPERSON**



IEEE SIESGST, this one platform has been one of the major factors for grooming me on a personal as well professional level. I would certainly say that it has been a vital part of my entire undergraduate journey.

I have many fond memories of being a part of this student branch. From starting off as an enthusiastic technical volunteer to getting an opportunity to head an event namely 'Circuit Maniacs' to slowly getting promoted to becoming the vice chairperson and finally today, being the Chairperson of this body has definitely been one of the best experiences for me. Over the three years of my remarkable journey, not only was I able to enhance my knowledge but also was able to learn the vitality of getting the exposure to learn by working and heading a team of 75 students.

I was very fortunate to have an inspiring and excellent set of seniors, team members and our branch counselor who is our pillar of support and assistance. I wouldn't deny the amount of hardwork and risks that went behind taking up new challenges and its execution, but the success that comes aftermath is something that one would love to experience and so did I. It was truly a moment of pride to see my student branch grow with various achievements in front of me.

Although I had my tenure during the worldwide lockdown period, my team members have supported me in successfully conducting many new virtual events, webinars and competitions. I will definitely say that IEEE SIESGST has given me the opportunity to test every skill of mine at the same time given me hints to build upon it.

IEEE SIESGST has not only given me every single asset that I require to have a successful career and to be a better person but has also given me a family which is not at par with anything. It has been overwhelming to have worked with a bunch of innovative minds who have let me showcase my skills and helped me grow. I am obliged to my student branch for boosting my morale and allowing me to give my best as a chairperson. The memories and experience I have gained from IEEE SIESGST will stay with me throughout my years to cherish and live through. Wishing the future team all the luck for keeping IEEE SIESGST a constant success always!!



- Sricharraan Ramaswamy (Chairperson, IEEE SIESGST) Every single time I get asked about my undergraduate life as a budding engineer, the one reply that instantly comes across my mind is most certainly the delightful experiences of mine with IEEE SIESGST. Never will I forget my encounter with this student branch of my college which has intrigued me since day one and will definitely continue to do so by every passing year.

IEEE SIESGST has been significant throughout my engineering days and gave me the fortune to be a part of an incredible journey to cherish forever. Vaguely do I remember the days of my first year at college where this student branch caught hold of my attention and motivated me to be a participant of its annual technical festival 'TECHOPEDIA' - an emotion that has been alive in me ever since. My association with the body for the past three years allowed me to evaluate my potential in every aspect and finally promoted me to the position of IEEE Representative.

To be very honest, this professional body welcomed me with a wholesome heart and has been very warm just like a family. I had an excellent set of seniors, team members and of course our strength, our branch counselor who always brought out the best in me in every other way. Along with allowing me to interact and network with people from various areas of the industry and wider domain knowledge, IEEE SIESGST had been subtle in manifesting in me the potential of becoming a leader.

As an IEEE Representative, I became more dynamic, creative and it enabled me to work efficiently under pressure with my team. I have been able to brainstorm and work towards the betterment of the student branch, keeping in mind the many factors that one might have to face. The culmination of efforts by every team members' hardwork has made IEEE SIESGST reach the pinnacle today and truly gives me immeasurable pride to see my student branch achieve various awards and prizes. Today, the team-turned-FAMILY has given some unforgettable memories and proud moments that I will continue to cherish always.

I am extremely grateful to the body for moulding me and making me who I am today and will take back the balance that one requires to witness a successful carrier. Wherever I am placed, IEEE SIESGST will continue to be a part of me and my thoughts. Good luck to all the members of the next council to strive and follow the legacy of this enduring team!



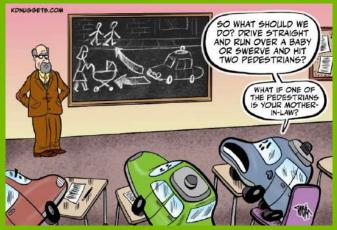
- Athulya Anand (IEEE Repesentative, IEEE SIESGST)

# Why Ethical Artificial Intelligence?

"The greatest danger of Artificial Intelligence is that people conclude too early that they understand it."

In recent times, we can catch sight of a seismic change from A for Apple to A for Artificial Intelligence. The ethics of AI is often concentrated on scrutiny of various sorts which can also be quaint. Amidst all the technologies, Al seems to be closer to our skin because the main idea is to create machines that have a feature central to how we humans see ourselves, involving qualities such as perceiving, feeling, thinking, self-learning.

Al applications also include text analysis, natural language processing, logical reasoning, game-playing, data analytics, predictive analytics, as well as autonomous vehicles and numerous other forms of Robotics. Al takes aid of many numbers of computational techniques to achieve these aims which is inspired by the natural functioning of the human brain. With increasing mastery in the realm of Artificial Intelligence, we ought to encounter virtuous issues that arise with certain use of these automated systems. The design of these technical artefacts thus has ethical relevance for the final product. So, beyond the thought of responsible use, we also need to shed some light about responsible design in this field. All data collection and storage methods are now digital. Al systems mainly feed on user data most likely involving public information, sensitive details etc. This might hit us hard when we learn how our privacy is at stake with the increased use of this system.



The ethical problems of AI go beyond mere accumulation of data and privacy concerns attached to it: They also include the use of information to manipulate behaviour of the mechanised system which later may result in undesired predictions and solutions. For instance, social media has now become the prime location for political propaganda, so the kind of influence offered by it can be used to direct one's voting behaviour and if it succeeds it will be marked as a deprivation of a person's autonomy. As a result, the righteous use of this newly flourishing field of Artificial Intelligence can help many who highly demand the inclusion of methods and solutions that are not only advanced but also moral in nature!

- K Gauri

### WriTech- A Technical Article Writing Competition

"The mind that opens to a new idea, Never returns to its original size!" ~Albert Einstein

Spreading wildfires, increased use of plastic, growing infections, melting ice-caps etc... We have an endless list of problems, but what if we collectively brainstorm upon resolving them?

WriTech is one of the best platforms for students to put forth their ideas to solve real-world problems using the power of Technology. This technical article writing competition conducted by IEEE SIES GST was held over a span of 2 weeks from 20th May 2020 to 3rd June 2020. The contest was absolutely free and open for all and hence students from many colleges and varying educational backgrounds proffered their views on paper. The main purpose of the competition was to make students indulge and explore technical topics during the lockdown period of COVID-19 pandemic. The topic for the year 2020 was "Future Technology", which aroused interest among the youth to think how this boon of mankind can be used to solve its own problems.

Despite the fact of being an online event, it was highly intriguing for all to take part and received approximately 100 participants submitting very well-thought technical articles. Shortlisting from numerous quality contenders is never easy and hence the articles were passed through 3 levels of jury members. The articles submitted were firstly stipulated on plagiarism and the ones with more than 30% plagiarism were eliminated directly. All rounds judged the articles on criteria like Accuracy, Innovation, Grammar and Vocabulary.

Winners and special mentions for the competition were:

Winning article: Kavya Rajiv

1st Special Mention: Sneha Bhardwaj 2nd Special Mention: Nishant Joshi 3rd Special Mention: Tvisha Modi 4th Special Mention: K Gauri



Scan to read the Winning Article



# **Digital Design Hacks 101**

"You can Photoshop something, put it out and everyone believes it." -Keri Hilson

In today's digital world everything that goes easy on the eye, grabs maximum attention and is a much-needed skill in all the fields so to help the students develop this skill, The IEEE SIESGST Student Branch conducted their first ever Webinar Series "Digital Design Hacks 101" on 18th and 19th June 2020 for the students to get familiar with the use of software like CorelDraw and Adobe Photoshop.

This was an absolutely free session, and was promoted on numerous official social media handles of IEEE SIES GST like LinkedIn, Instagram, Facebook etc. This one hour session helped students build a foundation for using both CorelDraw as well as Adobe Photoshop and understand basic design terminology.

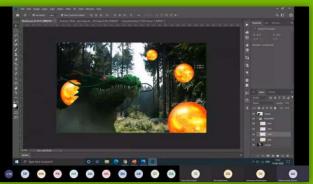
Day 1: Design Mentor of IEEE SIESGST Mr. Aditya Birajdar started with the demonstration for installing CorelDraw and then the basics were made clear with the help of various examples one of them being the winning Digital Poster "COVID-19 Supplies".

Day 2: Design Mentor of IEEE SIESGST Mr. Atharva Karnik started with the demonstration for installing Adobe Photoshop and explained the salient features like how to manipulate images, create layers, and more.

At the end of both the sessions an online live quiz was conducted where participants were given an opportunity to showcase the skills gained through this session.

This educational Webinar Series got an enormous response and it was concluded by announcing a Technical Poster Making Competition "DESIGNIT" where interested students will be able to apply these skills learnt in this webinar.







can to watch the YouTube Playlist

# DesignIt

A technical-digital poster making competition brought on by IEEE SIES GST hinged on the motive~"To Society through Technology". The participants got to embed themselves in the exploration of ways to exhibit a technological point of view through creativity. They were encouraged to virtually brainstorm and come-through with a convincing idea of aid through technology. This opened up a sea of possibilities and solutions for the participants to arbitrate on. The partakers indulged as a group of two or individually. Submissions poured in over a course of 10 days. The posters were primarily checked for plagiarism and later assessed on their neoteric quality, appeal and proficiency of the theory and the aftermath. On conducting a two round evaluation of the posters the judges concluded upon a winning team. Ashwin M., N. S. Hari Ram of Team Blasters acquired the winning position. An E-Certificate was given out to all the participants.

Winners and special mentions for the competition are as follows:
Winning poster - Ashwin M., N. S. Hari Ram as **Team Blasters**1st Special Mention - Arfah Upade as **Individual**2nd Special Mention - Vaishnavi Dixit, Sahil Raut as **Team SAHIL AND VAISHNAVI** 





Scan to view the Winning Poster

### **After Graduation Series**

IEEE SIESGST in this pandemic period has taken up an initiative to conduct a series of live sessions to help under-graduate students take a rather informed decision about the career path they prefer or to even learn about the different scenarios possible after their degree course. This three-day session brought a different perspective for the students to work on their plans after their graduations. It was not only for the technical or corporate side but also for non-technical people.

#### Episode 1: Cracking MS with Aditi Kulkarni

Ms Aditi Kulkarni is currently pursuing her Masters at the University of Texas. The first episode consisted of students asking various questions on the live session as well as beforehand over Instagram. The live session saw students who were keen to learn about pursuing a Masters course in the United States of America as well as the importance of pursuing a degree in higher education. Around 120-150 students attended the live session on Instagram and asked many questions related to department opportunities, privileges and events.

#### Episode 2: Talking Tech with Nivedita Deshpande

Ms Nivedita Deshpande is currently working as a data analyst. There were many questions regarding certification courses and requirements. Opportunities after graduation are crucial and we all need information about ethics and understanding, Ms Nivedita said it is important to be up-to-date about technology, learning coding languages and building a strong resume. There were 150 attendees in the live session on Instagram who appreciated the insightful session.

#### Episode 3: On the Non-Technical side with Aman Rajput

Mr. Aman Rajput is currently working as a Business Development Associate at BYJU's. The live session saw students who were keen to learn about crossing into the field of sales, marketing and other administrative jobs besides the technical. There were many questions which highlighted the issue of stigma around choosing only technical jobs. Mr. Aman diligently advised the students to keep their non-technical skills up-to-date. There were 170 participants listening to the session and applauded for the speaker.







# **CHAIRPERSON, WIE**



IEEE SIES GST has been an integral part of my undergraduate student life. It has given me innumerable experiences and opportunities to not only explore my potential but to push myself beyond it and strive for excellence. It gives me immense pleasure to be affiliated with such a hard-working team that has turned into a family. IEEE SIES GST has been a prominent student branch of our college that has seen significant growth in the last few years. This has only been possible due to the culmination of all the meticulous efforts put in by the committee members and through constant support and motivation provided by our accomplished and amicable branch counselor, Prof Biju Balakrishnan sir.

My journey with the professional body started in my first year of college when the annual technical fest, Techopedia intrigued me and I took part in the events. In my second year, I got the opportunity to be the event head for a debate competition which paved my way to becoming the Publicity Head in the third year. I was honoured and delighted to be promoted as the first Chairperson of the Women in Engineering affinity group, where I got the opportunity to fabricate and implement several innovative ideas that would promote women participation and retention in the science domains. Along with my team, we organised STEM lectures for the underprivileged students of grade six to eight at a local government school and had a really overwhelming experience. We celebrated Women's Day by having an informative panel discussion with five distinguished panelists from different domains to discuss the societal, cultural, and work setting challenges faced by women in today's world.

IEEE SIES GST gave me the chance to network and interact with peers and professionals from different walks of life which gave me a wider spectrum of perspectives. It has made me more adaptive and instilled a greater sense of commitment for any task assigned to me, even under pressure. During my entire tenure, I have been surrounded by extremely motivated seniors and an excellent set of committee members which has played a significant role in the growth of my technological intellect as well as management and teamwork ethics.

IEEE SIES GST has given me memories that are etched close to my heart, which I will cherish for a long time to come. Best of luck to the next council members for all their endeavors and to keep the legacy of IEEE SIES GST soaring high!



- Simran Sharma (Chairperson, WIE IEEE SIESGST)

### **WORDS BY REPRESENTATIVE**

IEEE is that platform which has given me everything, right from experience, skill development, enhancing technical knowledge, building relationship with peers in the workplace, organizing various events, attending conferences, interacting with the greats of the field and an amazing exposure for personal growth.

IEEE has always been a part of me since I became acquainted with it. I was inspired to join this student body because of my seniors who carried this team with great care and respect and someday I hoped I could do the same. IEEE has made some radical changes in my college life right from my third year where I was involved with developing WiE. As a part of IEEE council in third year, the team had a vision of establishing a new sub chapter called Women in Engineering (WiE) under IEEE. My vision was clear when it came to WiE, it was creating a platform for women to learn and acquire knowledge and to have as many women as men in the field of Science and Technology. Keeping this vision in mind, I moved forward to start this chapter in January 2020 and together as a team we embarked on this beautiful journey. Since then we have conducted many events in the calendar year. The team has evolved as a student branch and as a WiE representative I am immensely happy about it.

I worked for the council for 2 years and in this due course, I met a lot of new people through conferences which not only involved students but also professionals in different walk of life. IEEE has helped me with professional as well as personal growth and hence evolving me as a greater individual. This team has turned into family because of the mutual respect and care we have for each other.

To conclude, I will want every member of IEEE to grow and make use of the platform which is provided by the student branch. I am so thankful for this opportunity given by Prof. Biju Balakrishan, who has always motivated and inspired us to make a great impact on the society through this student branch. The memories of the 2 year tenure will always be cherished and will stay forever and beyond. I hope every member that becomes a part of IEEE council will continue to grow this team in someway or the other. Wishing ALL THE BEST for the new council.



- Tanvi Joshi (Representative, WIE IEEE SIESGST)

# WEBCON - DAY1

IEEE SIESGST organized day 1 of the webinar series called "Webcon" on the topic "Prepare yourself for ML and DL" on 31st October, 2020. For Webcon Day 1, everyone was excited to join this series which began sharp at 5:00pm. The speaker for this webinar was **Dr. Aarti Karande** who is an assistant professor at Sardar patel institute of Technology. Aarti ma'am also volunteers as Chair at IEEE Special Interest Group of Humanitarian Technologies, Bombay Section and is learned in personality development, object oriented programming, database management as well as application server programming.

The webinar started with the development of the definitions of Machine learning, Artificial intelligence and deep learning and further focusing on the data generation and database formation. Ma'am further explained the interrelation of the large amounts of data to the development of the prediction softwares and machines and the need for such machines.

The session shed light on the different processes and dived into detail about the data development methods, ML model training methods such as supervised and unsupervised and also the testing methods globally adopted. Dr. Aarti ma'am adopted captivating examples to explain the concepts to students. Examples such as netflix recommendation engines, auto tagging features, amazon alexa language processing, gmail filters for spam mail negligence and more such interesting examples helped in easier understanding of the concepts.

This webinar was highly interactive towards the end as the questions started flowing in which were answered by ma'am in full details. The webinar was concluded by giving Aarti ma'am a vote of thanks and appreciating participants for their presence and cooperation throughout the webinar.



# WEBCON - Day 2 & Day 3

IEEE SIESGST organized day 2 of the webinar series called "Webcon" on the topic "Cloud Computing for Beginners" on 1st November, 2020. After the success of Webcon Day 1, everyone was excited to join the second day of this series which began sharp at 11:00am. The speaker for this webinar was Amar Kalvikatte who is a Google Cloud certified professional solution architect with nearly 20 years of experience in Cloud, Datacenter, delivery, strategy and architecture.

Amar explained in detail, the best practices for designing applications with built-in security at the architectural and application level to reduce risk using cloud-native patterns and services such as AWS IAM permissions, Amazon RDS Proxy, AWS Secrets Manager, encryption at rest, and many more. This webinar was highly interactive towards the end as the questions started flowing in which were answered by Amar in full details.

After the success of Webcon Day 2, everyone was excited to join the third day of this series which began sharp at 10:00am. The speaker for this webinar was Dr. Sanjay Shitole who is Head of the Department and Associate Professor in Department of Information Technology in Usha Mittal Institute of Technology for Women, S.N.D.T. Women's University, Mumbai. He earned his Ph.D. at IIT Bombay, Mumbai in 2015. He has presented his research ideas in International Conferences and workshops held at Melbourne, Australia and Frascati, Italy.

The webinar began with an introduction to the LaTeX software which is used for document preparation. Participants were then introduced to the use-cases of LaTeX like in academia for the communication and publication of scientific documents in many fields, including mathematics, statistics, computer science, engineering, physics, economics, linguistics, quantitative psychology, philosophy, and political science. He covered most of the topics, such as formatting, table, figure, referencing, and many more over the entire session. During the demonstration, the queries of the students were also responded and all the queries were satisfactorily answered. Along with the demonstration of how to use the software both in offline and online mode, he also briefly explained all the necessary steps required for the installation.





### **WOMEN'S DAY CELEBRATION**

The WIE affinity group under IEEE SIESGST Student Chapter in collaboration with the Women's Development Cell at SIESGST celebrated Women's Day on 9th March 2020. On this occasion, a panel discussion on "Challenges faced by women in today's Social, Cultural and Work Setting" was arranged. Dr. Anu Binny (HR Technology Practitioner), Mrs. Neha Pasoria (Lawyer), Mrs. Rachna Sabu (Psychologist & Special Educator), Dr. Manisha S Abhyankar (HOD, Computer Science, KBP College) and Dr. Pooja Vyas Bansal (Obstetrics and Gynecology) were the panelists for the day from various fields.

The panel took a moment to address the topic and give their initial views in perspective of their respective fields. The panel was guided through the discussion by Mr. Harsh Agarwal, technical mentor for IEEE SIESGST Student council, with the use of questions about current difficulties faced by women in their profession and ways to overcome these norms. The panel was vast in nature and hence was able to share their view about the topic more thoroughly by being able to mention both sides of different situations. Toward the end, the audience which includes the students and faculty were able to ask their questions to the experienced panelists, all the panelists enthusiastically answered the questions asked by them.







### **STEM Lectures**

On 26th February 2020, the IEEE SIESGST student branch under the WIE affinity group conducted STEM lectures for students in the 6th standard as a means to inculcate a sense of curiosity and eagerness to learn and discover more about the fields.

The lectures were conducted for students at Shiravane Vidyalaya and Junior college situated in Nerul with prior coordination with the principal and other faculty members at the school. The students of 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> were taught Mathematics, Science and Technology respectively and all three classrooms were given an overview of the multiple fields of study under the engineering part of the session. The student body for IEEE assembled at 10:00 am at SIESGST before heading to the school. The lecture began at 11:00 am and was conducted for 90 minutes and concluded at 12:30 pm.

6<sup>th</sup> std. students were taught mathematics in which the students were introduced to different techniques of analysis for multiplication, division as well as basic math. Divisibility tests, quick multiplication techniques of multiple types were some of the topics covered. In science, for the 7<sup>th</sup> std. students, they were introduced to different scientific concepts and given an overview of the subject. The laws of motion, magnetism, and gravity were some of the topics covered during the session. The IEEE student branch conducted said lectures with the use of PowerPoint Presentations and videos for better understanding of the concepts. Under technology, the students of 8<sup>th</sup> std. were introduced to different advancements in technology and its day to day applications and given an overview of the subject. Students were made to interact with each other in discussing the different technologies that were used on a day to day basis. They were also given the opportunity to discuss topics such as robots, computers, rockets and other such advancements in the field of technology. The IEEE student branch used the robots built by them in the robotics workshop conducted, as a means to hold an interactive lecture and involve the students in the field through inculcating curiosity.

After the STEM lecture concluded the students showed their appreciation verbally. The lectures were conducted successfully.





### **OUR MTTS CHAIRPERSON FOR YOU**



"If you can laugh together, you can work together."

This is true. If you cannot find joy while working as a team then you do not belong there. When I was in my first year of engineering, I was very much interested in being in the organizing committee. This interest developed after I saw my cousin organizing events for his university. Some of your favorite subjects don't leave you even after you have completed your 10+2.

In the Second Year of my Engineering I realized that I need some extra curriculars other than attending just college lectures. At that time I could not fit into technical team as there were better students than me. Same was with cultural, creative, literature, etc. Apart from these, there were student chapters of every department. Since I am an Electronics and Telecommunications engineering student my department has IEEE student chapter. I still remember that day after the lectures our seniors who were a part of IEEE in our college made an announcement of the interviews for volunteering TECHOPEDIA 2018. I got selected and started working for INQUISITVE. While conducting this festival of IEEE SIESGST, TECHOPEDIA we were not tired instead we enjoyed so much and along with joy we got to learn a lot of things like we all sat together and painted posters. While making these posters we were watching how our website was being made and how technical games like the wire game was being made.

In my third year I got the opportunity to become the MTT-S Vice-chairperson. Now this time it was different. We all came together and built a new events TECHNO-POLY and GOT ANY IDEA?. Soon after the Techopedia we left for AISYWC 2019 which was conducted in Hyderabad. After conducting many seminars and workshops it was finally the time for me to contest in the interview for the Final year posts in IEEE SIES GST. Luckily I was selected and was given the post of MTT-s Chairperson.

Why so much of detail? I just presented you a glimpse of IEEE SIESGST. Previously before joining IEEE SIESGST I was an introvert and would not like to talk in public. Because of the exposure I got in this team and because of the people I met over the span of 3 years I am not an introvert and can talk in public with no fear. My best wishes are always there with the team for raising the level of IEEE SIESGST and have an adventurous year!!



- Harsh Ramesh (Chairperson, MTT-S IEEE SIESGST)

# Al: Facts or Myths?

The whole world is too hyped about the cutting edge technology Artificial Intelligence. But what exactly is AI? The term artificial intelligence was coined in 1956, but AI has become more popular today thanks to increased data volumes, advanced algorithms, and improvements in computing power and storage.

#### Al is going to replace all jobs

It is just as possible that a more productive economy, brought about by the increased efficiency and reduction of waste that automation promises, will give us more options for spending our time on productive, income-generating pursuits. In the short-term, employers are generally looking at AI technology as a method of augmenting human workforces and enabling them to work in newer and smarter ways.

#### Low-skilled and manual workers will be replaced by Al

These aspects of the job are less likely to be automated, but members of their respective professions could find they have more time for them – and therefore become more competent at them – if mundane drudgery is routinely automated. And certainly this a fallacy, future does not state the replacement of such jobs.

#### THE RISKS OF SUPERHUMAN AI

The fear of machines turning evil is another red herring. The real worry isn't malevolence, but competence. A superintelligent AI is by definition very good at attaining its goals, whatever they may be, so we need to ensure that its goals are aligned with ours. Humans don't generally hate ants, but we're more intelligent than they are – so if we want to build a hydroelectric dam and there's an anthill there, too bad for the ants. The beneficial-Al movement wants to avoid placing humanity in the position of those ants.

#### Al will lead to the destruction or enslavement of the human race

The fact is though, that not withstanding the distant future, where indeed anything is possible, a great number of boundaries would have to be broken down, and allowances made by society before we would be in a position where this would be possible. The hypothetical scenario tends to be that robots either develop self-preservation instincts or re-interpret commands to protect or preserve human life to mean that humans should be taken under robotic control.

Computer science defines AI research as the study of "intelligent agents": any device that perceives its environment and takes actions that maximize its chance of successfully achieving its goals. A more elaborate definition characterizes Al as "a system's ability to correctly interpret external data, to learn from such data, and to use those learnings to achieve specific goals and tasks through flexible adaptation." It is never described as a technology that will take over us, the way it is fantasized in movies is inaccurate to certain details. But this thriving technology is created for the betterment and no harm.

- Shruti Singh

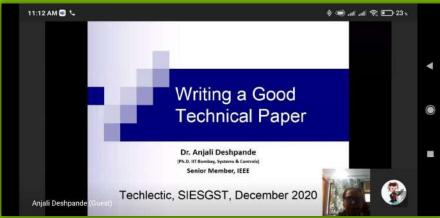
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COLAB EVENTS

IEEE SIESGST in collaboration with the Literary Team of SIESGST conducted a webinar on December 1<sup>st</sup>, 2020. The speaker for the webinar was **Dr. Anjali Deshpande** who has been a Professor and Head of Electronics Engineering Department for 2 years. She has also been a senior lecturer in renowned colleges like KJ Soumaiya College of Engineering and Vidyalankar Institute of Technology.

She covered the topic "Writing a Good Technical Paper" for the students of SIESGST. The webinar started, by her giving the outline of this webinar. Firstly she covered why technical writing is of utmost importance for engineering students and explained the various ways of sharing ideas like webpages, reports, patents and technical papers. After telling about what a technical paper and a research paper mean, she began explaining the content which makes a good technical paper including what should be written. As the students were now well aware of what a technical paper looks like, she started by briefing about how to write a good technical paper which involved two important aspects namely the process of writing (technical aspect) and the product. These aspects were covered in depth.

Now comes the review process in which she gave a brief history of the review process and also covered the scientific publishing fundamentals. In the last section of this webinar students were introduced to the LaTeX Software which helps in technical paper writing. Here she gave the practical overview of the software and covered why this tool is handy when it comes to writing a technical paper.





### **INSPECT ELEMENT**



IEEE SIESGST in collaboration with CSI SIESGST organized a front-end website development competition for undergrad students keen to showcase their skills in coding languages such as HTML, CSS, JavaScript etc. The competition was organized as a '6-Days Frontend Website Development Challenge' from 26th November to 4th December, 2020, which included the steps of bidding for their preferred entity among those offered and to then develop their webpages as best possible to represent the entity allotted to the participating

The theme of the competition was SubNautica which referred to the underwater theme, to be followed and understood in the content and designing of the website. The event observes participating members in teams of two at the most.

Participants were allowed to only use HTML, CSS and JavaScript and the following frameworks were allowed:

Bootstrap (for CSS)

Popper.js and jQuery (for JavaScript)

Google Fonts & Fontawesome (for Fonts / Icons)

The judges for the event were Mr. Chinmay Chandak and Mr. Vipul Singh. The websites with the winning score were by Mr. Vineet Iyer and Mr. Vishak Kodethur and the website at runner up position was by Mr. Surendra Bhaskar Ediga and Ms. Arfah Upade. The winning team was offered a free industrial training internship opportunity by Softentures Technologies and all participants were given a flat 20% discount on the same.



Winner: Vineet lyer Vishak Kodethur

Runner-up: Surendra Bhaskar Ediga Arfah Upade



# THE DYNAMIC SQUAD

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PUBLICITY HEAD	MEDIA HEAD	MEDIA HEAD	EDITOR

# **ACHIEVEMENTS**

Amidst of Covid-19, IEEE Student Branch MGMCET had organized a Digital Poster making contest in which participants' task was to develop innovative, creative digital posters.IEEE SIESGST was declared winner of this Digital Poster Making Contest on 10<sup>th</sup> May 2020 by scoring a total of 93 points out of 100 points.

The IEEE Student Branch Central University of Karnataka (CUK) conducted a National level competitive coding competition on Hacker-Rank platform on 5th June 2020 as a part of SRISHTI, a Techno-Cultural Event of CUK.Cibin Chandrasekhar, Technical Mentor of IEEE SIESGST participated in LetsCode National level Coding Competition which was held as a part of SRISHTI (Techno-Cultural Event) hosted on HackerRank and was successfully able to secure the 1st Position along with cash prize as the result was declared on 27<sup>th</sup> July 2020.

The IEEE-VIT Voyager 2020 conducted an Inter-college competitive programming challenge on HackerRank platform on 31st May 2020. Cibin Chandrasekhar, Technical Mentor of IEEE SIESGST participated in CodeAger Competition hosted on HackerRank and the result was announced on the same day where he secured the 1st runner up position.

IEEE MBIT Computer Society Chapter conducted an intercollegiate Quiz competition on 3rd October, 2020 named 'Webpage Wonders' on the occasion of IEEE Day Celebration.Aditya Singh, Technical Head of IEEE SIESGST participated in Webpage Wonders Competition which was held on the occasion of IEEE Day Celebration and he was successfully able to secure the 2<sup>nd</sup> Position as the result was declared on 4<sup>th</sup> October, 2020.

# **GENEROUSLY SPONSORED BY**



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#### HIGHLIGHT **EVENT**

### **TECHOPEDIA 9.0**

IEEE Student branch of SIES, Graduate School of Technology organized the 9th edition of TECHOPEDIA. Techopedia 9.0 was conducted virtually for the first time due to the pandemic situation and was a weeklong fest starting from the 24th till the 30th of January, 2021.

Techopedia is a national level technical festival organized under IEEE Student chapter of SIES Graduate School of Technology. In this year's edition 4 events were conducted, namely Inquisitive (National Quiz Competition), Squabble (National Debate Competition), a flagship event TechForage (Virtual Treasure Hunt competition) and a collaborative event **Technopreneur** (technical business model presentation competition) in collaboration with EDC SIESGST. The theme for this year's festival was "The Realm of Ethical AI".

#### <u>TechForage:</u>

TechForage was a competition which presented itself as a virtual cryptic hunt. The event was organized in order to help students develop their mental abilities through crosswords, puzzles, brain teasers and more. The event was organized for the first time and was the flagship event in Techopedia 9.0. Participants could register for the event in teams of two and the registration started in late December 2020.

150 teams had registered for the event and were all able to participate in the 1st round conducted on the 27th of January, 2021, which consisted of two stages wiz. Mystery word game and Resistor Mania. 44 teams qualified for round 2, which was conducted on the 28th of January, 2021. Teams were given phrases in morse code to be decoded before being able to proceed to the Hangman stage that consisted of Brainteasers. Of the 44 teams from round 2, 15 were given the opportunity to participate in the final round. In the final round, conducted on the 30th of January, participants were given a series of pdfs, filled with puzzles, coded messages, crosswords, and many such riddles, each pdf accessible with the answer from the previous. All rounds were conducted on the Discord platform and the teams that were able to tough it out and decode all the riddles, puzzles, questions and PDFs were declared winners.

#### Squabble:

0

01

100

It is a National Level Debate competition and a platform to showcase your oratory skills with technical perspective. The event began on the 25th of January, 2021 with round 1.Close to 120 teams had registered for the event and over 80 teams participated in round 1. In round 1, 4 teams debated in a round robin method after voting on a preferred domain out of two. Round 2 was conducted on the 28th of January, 2021. It followed a Team A v/s Team B system, where topic of team A was a surprise for Team B and vice versa. This round of debate saw a very refreshing speed of debate as the teams battled out over the two topics with topics being switched intermediately. Each debate was 20 minutes long with 1 added minute for conclusive statements. Out of the 36 teams, 10 teams qualified for the final round. In the final round, conducted on the 29th of January, 2021, two debating teams were shown a video clip, with 5 such separate video clips. The topic for the debate was to be based on this clip. The team winning a mini game before the debate would decide the topic from the video clip, or could decide to go for or against the topic their opponents chose. Each debate in this enthralling round was close to 20 minutes long.

#### Inquisitive:

It is a National level quiz competition, conducted every year by IEEE SIES GST under Techopedia. In this edition of Techopedia Inquisitive saw the maximum registrants i.e. close to 350 individuals. This boosted the event to a whole other level. The event was conducted in a similar fashion of 3 rounds conducted through the Microsoft teams platform and Quizizz platform.

In the first round, conducted on the 25th of January, 2021, participants took part in a general quiz with questions including general knowledge to junior collegiate level questions. This round was time based and participants had only a limited time for each question. After round 1 the top 30% of the entrants qualified for the second round. In the second round, participants were given a crossword and upon completing said crossword, were to pick letters from the highlighted blocks and form a meaningful word. This word would be the final answer and the top 8 participants completing these in the least amount of time would qualify for the final rounds. The final rounds were split into two stages. In the first stage, the 8 participants played a quick shorter version of monopoly, with interesting technical questions, where 4 individuals with the lower scores were eliminated. In the second stage, participants played another game similar to Jeopardy. In this, blocks of questions were given, each bringing with themselves a question. Depending on the answer to the question number of points equal to the block were added or deducted from the participants score. The player with the maximum score at the end of the round was declared the winner.

#### **VICTORS**

<u>TechForage</u>	<u>Squabble</u>	<u>Inquisitive</u>	
Vedant Bhamare SIESGST SE CE Samprit Chaurasiya SIESGST SE CE	Sumedh Rokade SIESGST BE ME Bhargav Mantrala SIESGST BE CE	Anand Parayan SIESGST TE ME	
	RUNNER-UPs		
<u>TechForage</u>	<u>Squabble</u>	<u>Inquisitive</u>	
Prathamesh Gawas SIESGST SE CE Anand Borkar SIESGST SE CE	Shreyas Menon SIESGST BE EXTC Sarthak Sharma SIESGST BE CE	Rohit Raghuram SIESGST SE SE	

#### Technopreneur:

IEEE SIESGST collaborated with the Entrepreneurship Development Cell (EDC) of SIESGST to conduct the event Technopreneur. Technopreneur was a business model presentation competition which threw three rounds of activities, involved and demonstrated to participants the different parts of developing a company. The event began with a bang on the 24th as participants performed an online bidding on the IEEE SIESGST platform, developed by the technical volunteers of the event, for selecting their preferred domain out of the four offered. Depending on their domains, participants had to undergo two stages in the first round. The first stage was a selling round where the participants were asked to sell a given product and in the second stage, teams had to offer solutions to problem statements depending on their domain. 34 teams went forth into the second round. In this round teams would answer a minor guiz and give solutions to problems in a company to win an extra 5 minutes over the initial 10 minutes. This period was for the teams to draw up a logo for their prospective company according to the given statement. Depending upon their answers to the question, quiz and logo, 8 teams qualified for the final round. In the final round, teams had to present their solution to the initial problem statement from round 1, with their logo from round 2, and a PowerPoint presentation they were given 3 days to prepare. One team from each domain wiz. food, agriculture, social and health care, were declared winners.

#### **WINNERS:**

Social Cause	Food	Agriculture	Healthcare
Siddhant Sharma	Shabarish R.	Varun Sondur	Rohan Sawant
Atharva CoE TE IT	SIESGST TE CE	SIESGST FE CE	SIESGST TE IT
Anushka B.	Surya Krishna	Nuha Modak	Sriram lyer
Thadomal Shahani TE IT	SIESGST TE CE	SIESGST FE CE	SIESGST SE CE



### I'm Not a Robot

Intelligence is abstract... Our intellectual capability facilitates us to distinguish things with awareness, allows us to execute tasks may it be perceptible or obscure and it can be quite complex if you go to break it down to the neural level. Talking about intelligence, a study shows, grey squirrels are suited to remember where thousands of nuts are buried for months at a time. By using subterfuge they trick the potential stealer of nuts. They 'fake bury' the nuts, making a show of burrowing when they realize they are being watched, all the while holding on to their treasured walnuts until they find a safe spot to hide their bite. This can be classified as an innate sense and subtlety of this creature.

We humans have a superior sense and understanding of things. We realize that we have come very far, as a species, if we trace our steps back to the genesis. Countless inventions and proofs, calibration and rectification, the constant learning and unlearning has got us here today. The very cerebrum that thought of this clairvoyance, the now known Artificial Intelligence, deserves all the glory. Intelligence is no more affiliated with skill but it is efficiency. Al, to my understanding, is mostly about efficiency. Al can be taught to do everything, when I say everything, I hope for good things. A machine uses the data and instructions that are fed to it to throw together a result. But there is always a distinction to everything, isn't there? Today a machine cannot think for itself but it learns from experience and retrieves information.

Artificial Intelligence is: knowing. Human Intelligence is: understanding. Al mimics some level of human intelligence. At the same time there are instances where this machine intelligence is double-crossed. An elementary archetype of this is the reCAPTCHAs 'I'm not a robot' checkbox. "Why is this a requirement?" you may ask. It is used to keep the software robots at the bay. Software bots are not physical robots, they aren't real. These web crawlers emulate the actions of a human. They learn how a human interacts with the digital world and try to mimic and mirror. Their creation is mostly noble, it's for the automation of easy rote tasks like data entry, processing, etc. But security concerns have come up, which are somewhat being tackled with the help of captcha and data science. Humans can easily form an understanding of what a captcha is while a spambot has a hard time because it sees javascript which has to be rendered so as to bypass and that takes time, a lot of time. Now coming back to humans, just about all of us cannot possibly remember 10,000 chess positions at a time or calculate a 13 digit multiplication under 13 seconds. We need efficiency and accuracy. We need a balance. We need Al. And I feel we are on the right path with Al. From completing and correcting words and sentences to driving our car for us; it is an admirable mishmash of dexterity and finesse that scientists are achieving by fine tuning and engineering Artificial Intelligence daily. The future just got real.

- Anusha Ganapathy

# **EnigmaTech Sundays**

IEEE SIESGST's initiative of EnigmaTech Sundays covers the technical news from around the world. Season 1 was released every Sunday on YouTube via IEEE SIESGST's channel. The very first episode premiered on 10th of October 2020 and continued for 8 weeks till 6th of December 2020. The hosts were Ms. Mrunal Shinde and Mr. Prathamesh Thakur. In each episode, new technical advancements were discussed and showcased also with the on-going projects in the field of technology. Ground-breaking discoveries were highlighted and viewers were introduced with deep technical insight on emerging ideologies and anecdotes of the recent times in just a few minutes. The team and volunteers worked every week to curate the best possible articles and information from the web.



Scan to watch the ETS Playlist



### **IEEE SIESGST SMART VILLAGE PROJECT**

In February 2020 IEEE SIESGST Student Branch started the new project i.e IEEE SIESGST Smart Village Project (ISSVP). The purpose behind this project was to empower the villages which have no access to fundamental infrastructures like electricity, waste management, etc. The primary focus of this project is to handle issues like the absence of-

- Electricity
- **GSM** Connectivity
- Waste Management

For this project, the village Virjoli, situated in Raigarh district, Maharashtra, has been finalized. The village has access to electricity for only a few hours with no GSM connectivity. It also lacks fundamentally necessary infrastructures like road, housing, electricity, water supply, and waste management infrastructures. To tackle the electricity problem, clean energy alternatives are top priority, by powering small sub-systems initially, followed by extension to power the whole village. At the same time, network signal boosters are going to be implemented to fetch the GSM connectivity inside the village, thereby increasing the overall productivity. A vermicompost setup will also be implemented to maximize the crop yield in Virjoli, strengthening its economical stature.

Total cost approximately sums at around 5000\$, in which Solar panels take up a majority of a portion. This project will be submitted under different govt schemes and IEEE SIGHT and IEEE Smart Village for funding. It will be done by collaborating with IEEE, banking sectors, and various govt bodies for this project. The project will be guided by them on different matters such as legal help, fast-tracking the work, technical help, advising on various issues, workforce management, finance, etc.

This project has won runner-up position in the "Competition For Budding Innovators" competition organized by IEEE SIGHT Bombay Section. Further, an application has been submitted to the IEEE SIGHT for funding.





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