

TECH NEXUS

YOUR GATEWAY TO TECH EXCELLENCE

Silver Oak University IEEE Computer Society
Student Branch Chapter

AT A GLANCE

"Tech Nexus: Your Gateway To Tech Excellence" was organized under the auspices of **IEEE SOU CS SBC**, drawing a keen audience of students eager to dive into the cutting-edge realms of technology. The event covered a broad spectrum of subjects including *Supercomputing*, *Generative AI*, *AR/VR*, *Advanced Cybersecurity* and *Capture The Flag (CTF)*, offering attendees a comprehensive insight into these transformative fields.

BENEFITS

1

In-depth Knowledge of Emerging Technologies

Attendees gained a strong understanding of rapidly evolving technologies like Supercomputing, Generative AI, AR/VR, and Advanced Cybersecurity, staying updated on the latest trends and innovations.

2

Networking Opportunities

The event offered students the chance to connect with like-minded peers, industry professionals, and experts, fostering valuable relationships that could lead to future collaborations, internships, or mentorships.

3

Practical Insights and Real-World Applications

Participants learned how cutting-edge technologies were being applied in various industries, enhancing their problem-solving skills and providing real-world perspectives on implementing these innovations in their future careers.

4

Career Advancement and Skill Development

By exploring transformative tech topics, attendees boosted their knowledge, stayed competitive in the job market, and developed specialized skills that will help them excel in tech-driven industries.

KPIs

We are pleased to share with our esteemed readers a collection of standout moments and significant achievements that played a crucial role in making the event a great success.



125

Total entries recorded



12 HOURS

Scheduled Time



6

Number of Experts



ARYABHATTA AUDITORIUM

Silver Oak University



30th - 31st JULY 2024
09:00 AM - 03:00 PM

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TECH NEXUS

YOUR GATEWAY TO TECH EXCELLENCE

"Tech Nexus: Your Gateway to Tech Excellence" was a landmark event organized by IEEE SOU CS SBC, attracting a highly engaged audience of students and tech enthusiasts eager to explore the forefront of technological advancements. The event showcased an impressive range of cutting-edge topics, including Supercomputing, Generative AI, AR/VR, and Advanced Cybersecurity, offering participants a comprehensive view of these rapidly evolving fields. Through insightful presentations and discussions, attendees gained invaluable knowledge of the technologies shaping our future.

With a focus on innovation and hands-on learning, Tech Nexus provided a dynamic platform for both learning and collaboration. Participants were not only introduced to the technical nuances of each topic but also encouraged to think critically about their applications and implications. The event truly embodied IEEE SOU CS SBC's mission to empower students and equip them with the skills and insights needed to excel in today's fast-paced tech-driven world.

About Experts



Prof. Monali Suthar

Assistant Professor,
Department of Computer Engineering, SOCET



Mr. Adit Modi

Senior DevOps Engineer, Simform
AWS Community Builder
HashiCorp Ambassador



Mr. Roshan Rawal

Founder,
Exposit Immersive Solution Pvt. Ltd.



Mr. Falgun Rathod

Founder & Managing Director,
Cyber Octet Pvt. Ltd.
Corporate Trainer & Chief Cyber
Security Architect



Mr. Ajit Tabiyad

Assistant Systems Engineer,
Tata Consultancy Services



Dr. Sapan Mankad

Assistant Professor,
Dept. Of Computer Science and
Engineering, Nirma University

SESSION 1**Prof. Monali
Suthar****Introduction on
PARAM Shavak**

The event kicked off with an enlightening session on Supercomputing, led by Prof. Monali Suthar. Her repository of expertise and information on supercomputing truly elevated the knowledge of attendees. The discussion then shifted to High-Performance Computing, explaining the real life applications of the complex technology. This included an in-depth understanding and differentiation between multitasking and parallel tasking.

Furthermore, the focus of attendees was brought to PARAM Shavak, the supercomputer, detailing its features, objectives and the configuration to provide an idea of how the specifications of a supercomputer and a normal computer differ. It was also noted that PARAM Shavak is one of many supercomputers worldwide, with one located in Silver Oak University.

The speaker's presentation covered the extensive computing resources available, mentioning the environment, number of cores and the nuances of parallel programming, providing a thorough understanding of the HPC facility and its significant capabilities. The session was graced by Prof. Vishwas Sharma, Assistant Professor in Department of Computer Engineering, SOCET, who honored our esteemed speaker Prof. Monali Suthar with a memento as a token of appreciation for her insightful expertise.



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Day 1

Session 1



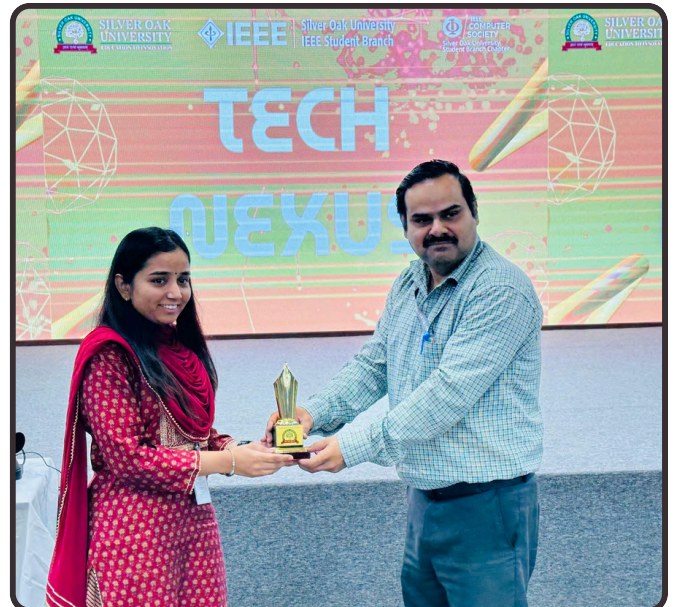
Prof. Monali Suthar guiding attendees through High Performance Computing



Participants attentively understanding the super-computing and its core concepts



Prof. Monali Suthar exploring the differences in CPU & GPU computing resources



Prof. Vishwas Sharma presenting memento to Prof. Monali Suthar for her insightful presentations

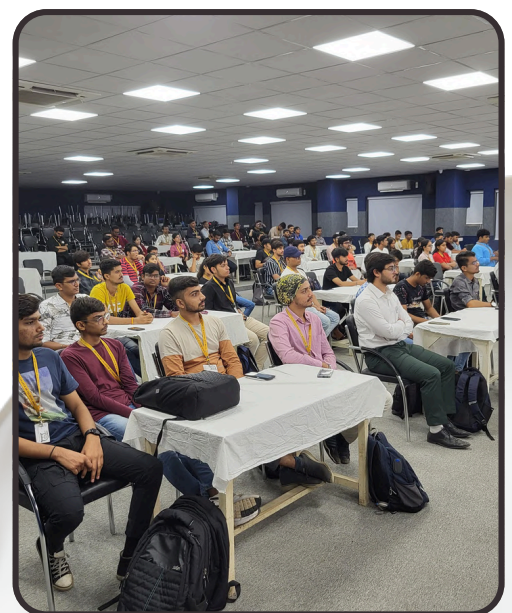
SESSION 2**Mr. Adit
Modi****Unlocking the
Power of AWS
GenAI:
A Beginner's Guide**

The next session was on Generative AI commenced by Mr. Adit Modi. The webinar took a detour into the realm of GenAI, Unlocking the Power of AWS showing how LLM's behave to certain prompts.

Mr. Modi began with the common uses and applications of Generative AI, highlighting its advantages and enhancing the worldview for the participants. The momentum continued into the promising world of AI, its applications and tools used in creating Cloud, giving the participants ability to combine the two leading technologies.

Taking an exciting turn with a live demonstration of "Party Rock", The session showcased the practical applications and power of AWS with GenAI, leaving the audience with a clear vision of AI's potential and an exciting future with endless possibilities.

As the session drew to a close with the applause, the speaker was presented with a virtual token of appreciation.



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Day 1

Session 2



Attendees delving into the concepts of AWS Party Rock with live demonstration



Mr. Adit Modi presented with a virtual memento for his unwavering insights

Quiz Competition



The stage was filled with a wave of excitement as curators took charge for a fun trivia session focused on various forms of communication. The enthusiasm in the room was palpable, with attendees energized and fully engaged, eager to showcase their knowledge and skills.

The quiz featured both technical and non-technical questions with an added portion of unique twist, challenging participants to recognize the voices from different service platforms. As the competition heated up, the enthusiasm only grew, while the pool of potential winners gradually narrowed.

In the end, everyone wrapped up the quiz with energy and a smile, having thoroughly enjoyed the experience from start to finish. The winners, who demonstrated exceptional knowledge and quick thinking, were celebrated with enthusiastic applause, adding an extra layer of excitement and pride to the event. Their success added a sense of accomplishment to the already vibrant and engaging atmosphere, leaving everyone with a feeling of fulfillment and excitement.



SESSION 3**Mr. Roshan
Rawal****AR/VR
Applications for
Industries**

The day concluded with an insightful session on AR/VR led by Mr. Roshan Rawal. He unraveled the fascinating world of Virtual Reality, exploring its diverse applications across various domains such as education, healthcare and sports. Additionally, he clarified the distinctions between different categories of AR and VR, providing a comprehensive understanding of these innovative technologies.

An immersive discussion on the expansive universe of Metaverse, Augmented Reality, Mixed Reality, and utilization of cutting-edge technology in training simulators, welding, fire safety, etc. took place, making the session both informative and interactive, with representation of different companies and musicians helping in making the kingdom of VR and AR more prosperous.

As the session drew to a close, Dr. Satvik Khara honored Mr. Roshan Rawal with a felicitation, leading into a final Q/A segment. This closing interaction cultivated an environment of growth and reflection, inspiring the audience to broaden their perspectives and delve into new realms of thought.



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Day 1

Session 3



Mr. Roshan Rawal demonstrating the applications of Metaverse and it works working



Participants exploring the vast world of Augmented and Virtual Reality



Dr. Satvik Khara presenting token of gesture to Mr. Roshan Rawal

SESSION 1**Mr. Falgun Rathod****Web
Application
Security**

The second day of Tech Nexus began with an energetic session on "Web Application Security", presented by Mr. Falgun Rathod. He covered various ethical hacking techniques and their essential role in identifying and addressing the vulnerabilities.

The discussion also explored key cybersecurity techniques such as SQL Injection, which exploits database vulnerabilities through malicious SQL code, Denial of Service and Distributed Denial of Service attacks, which disrupt services by overwhelming them with excessive traffic, rendering them inaccessible to legitimate users. His lively approach and extensive expertise made the session engaging.

The focus then moved towards tools of cybersecurity and hacking like LOIC, HOIC and XERXES, examined for their roles in executing these attacks. The session emphasized the importance of reverse engineering to reveal system vulnerabilities and highlighted the need to consider ethical and legal aspects in cybersecurity practices. A memento was presented to Mr. Falgun Rathod by Dr. M.N. Patel as a token of appreciation for his insightful presentation.



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Day 2

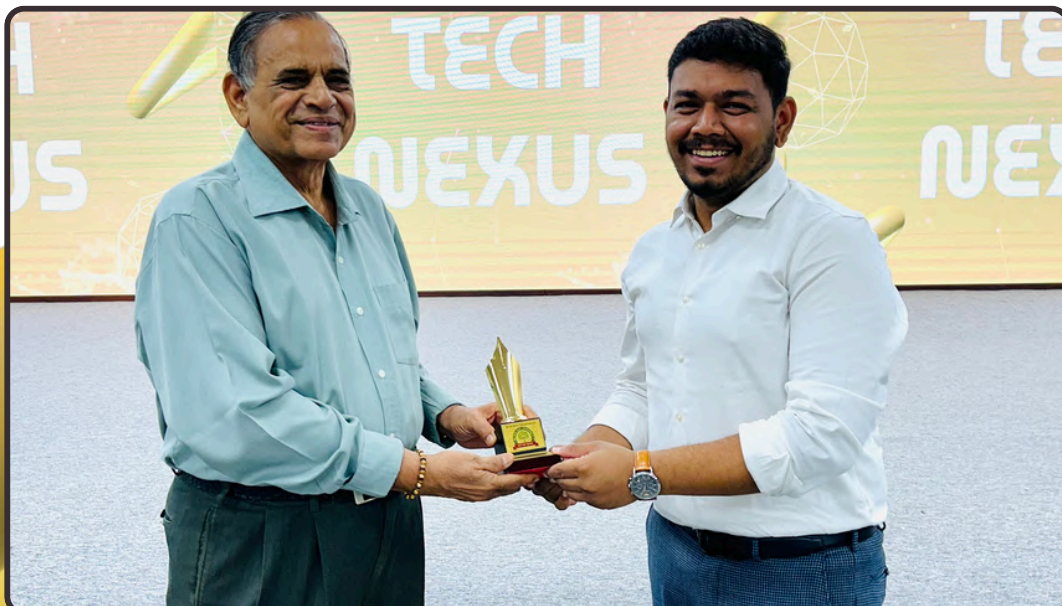
Session 1



Mr. Falgun Rathod driving participants into the core concepts of Cybersecurity



Attendees exploring the cybersecurity domain along with industry insights



Dr. M.N. Patel presenting a memento as a token of gesture to Mr. Falgun Rathod

**Mr. Ajit
Tabiyad**

**Mr. Prashant
Chettiya**

**Capture
The Flag**



In a first for Silver Oak University IEEE Student Branch, the CTF competition was inaugurated by Dr. M.N. Patel sir, setting an energetic tone for the event. This was followed by an insightful session on "Introduction to CTF", led by Mr. Ajit Tabiyad, an Automatic Security Researcher at TCS ranked in the Top 3% on THM and pursuing OSCP. Alongside him, Mr. Prashant Chettiya, Vice-Chairperson, Silver Oak University IEEE Computer Society Student Branch Chapter, added valuable insights, offering a thorough overview of CTF competitions and their significance in cybersecurity.

The session explored various CTF challenges, such as Jeopardy-style and Attack-defense formats. The speakers emphasized how these competitions develop critical skills, enhance problem-solving, and apply security techniques in real-world scenarios. They underscored the importance of CTFs in sharpening technical abilities for professional cybersecurity challenges.

The excitement peaked during the "Phir Hera Pheri" CTF competition, with participants showcasing their skills and enthusiasm. The speakers brought energy and guidance, making the event dynamic and thrilling. The competition concluded with winners Mr. Prince Dayani, Mr. Jenis Chavda, and Mr. Kaulesh Mor being recognized. Further on closing note. Prof. Digant Parmar presented Mr. Ajit Tabiyad with a memento, acknowledging his expertise and contribution.

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Day 2

CTF Competition



Participants solving levels through the Capture The Flag competition challenges



Attendees gaining practical insights from CTF exploration and indulging in it



Mr. Ajit Tabiyad presenting CTF winner Mr. Prince Dayani with prize for his incredible solving skills



Prof. Digant Parmar graciously giving Mr. Ajit Tabiyad a token of appreciation for his insightful presentations

SESSION 2**Dr. Sapan
Mankad****AI's Next Frontier:
The Rise of
Generative Models**

The session "AI's Next Frontier - The Rise of Generative Models", led by Dr. Sapan Mankad, captivated the audience with insights into the cutting-edge advancements in generative models and their transformative potential across various industries. The discussion highlighted how these models are shaping the future of AI with their innovative capabilities.

As the session dived into Generative Adversarial Networks (GANs), excitement grew. The audience learned about Conditional GANs, CycleGANs, and StyleGANs, which are redefining image generation, text creation, and media enhancement. These innovations demonstrate the growing influence of GenAI in creative and technical fields.

The session concluded with a look at GenAI's potential in entertainment, healthcare, and finance, as well as ongoing efforts to enhance model robustness and address ethical concerns. With under way research, these technologies are poised for groundbreaking and responsive applications. In recognition of his exceptional session, Dr. Sapan Mankad was presented with a memento as a token of appreciation by Prof. Digant Parmar.

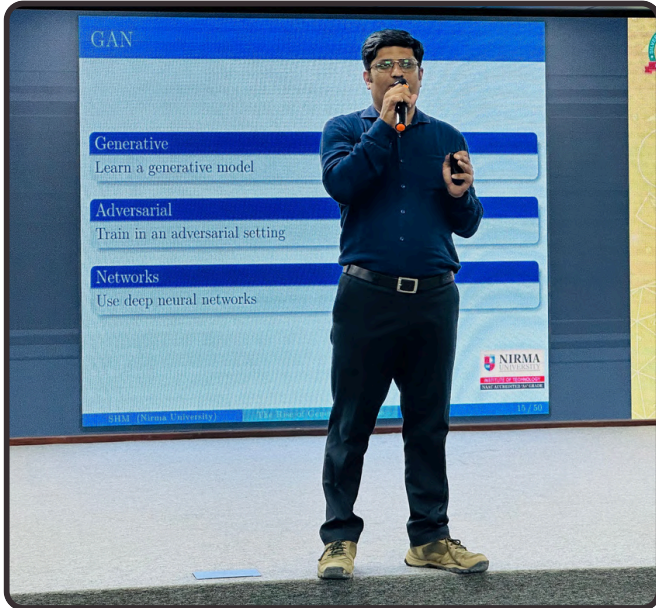


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Day 2

Session 2



Dr. Sapan Mankad explaining Generative Adversarial Networks architecture



Participants gaining insights into GenAI's potential in the large industry domains



Dr. Sapan Mankad presented with a token of gratitude by Prof. Digant Parmar

CONCLUSION

"Tech Nexus: Your Gateway To Tech Excellence" emerged as a resounding success, offering students an unparalleled opportunity to delve deeply into advanced technological concepts that are shaping the future. The event, meticulously organized and guided by experts in their respective fields, provided a wealth of knowledge across a spectrum of cutting-edge technologies. Through a series of comprehensive sessions, participants were not only informed but also inspired, gaining the confidence and insight needed to pursue excellence in these rapidly evolving domains.

The event's engaging and interactive format was pivotal in creating a memorable experience for all attendees. Through thought-provoking discussions, hands-on demonstrations, and collaborative activities, students were encouraged to actively participate, ask questions, and explore new ideas. This approach not only enhanced their understanding but also fostered a passion for continuous learning and innovation, setting a high benchmark for future events under the IEEE SOU CS SBC banner.

The success of the event is largely attributed to the exemplary guidance and support of Dr. Satvik Khara sir, Dean, Diploma Engineering, SOU; Head, Department of Computer Engineering, SOCET; IEEE Senior Member; Chairperson, SIGHT, IEEE Gujarat Section; Secretary, Computer Society, IEEE Gujarat Section; as well as Founding Member, Silver Oak University IEEE Student Branch.

Attendees Report



NUMBER OF ATTENDEES

Non-IEEE Student Members = 65

IEEE Student Members = 58

Volunteer Credits



The events success was possible due to the steadfast efforts of the volunteers who worked tirelessly behind the curtains, Kudos to the team!

IEEE SOU CS SBC TEAM

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Prashant Chettiyar
Vice-Chairperson

Kartik Vegad
Secretary

Shivang Thakkar
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Patel Anurag

Vraj Thakkar

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Siddh Bhavsar
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Manthan Kaku
Vishal Sharma
Payal Rana
Zalak Rajvanshi
Priyanka Javani
Rishita Prajapati
Prashant Chettiyaar

Jayrut Gajjar
Anurag Soliya
Janvi Bhagchandani
Ravina Gajipara
Gunja Shah
Snigdha Joshi
Jayani Nathvani
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Manthan Kaku
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Vivek Kumar
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Ansari Amanhusain
Vishal Sharma

Mahesh Khandla
Jayesh Chauhan
Frenny Chothani
Amman Chopadiya
Rajeev Joshi
Khushi More
Aum Pandya
Om Patel
Deep Nakrani
Prashant Chettiyaar

Technical Team

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Om Patel
Yash Puri Goswami
Krishna Pandya
Kenil Ramani
Prashant Kumbhare
Siddh Bhavsar
Mithil Mohite
Vimarsh Tiwari