

# CIPHERX

## Decode The Digital Battlefield

### AT A GLANCE

"CipherX: Decode the Digital Battlefield", hosted by IEEE Computer Society Gujarat Chapter, Silver Oak University IEEE Student Branch and Silver Oak University IEEE Computer Society Student Branch Chapter with Cyber Octet Pvt. Ltd., was an electrifying five-day workshop that equipped participants with advanced cybersecurity skills. The event drew a diverse audience eager to explore the practical dimensions of cybersecurity with Capture the Flag competition. Featuring sessions on network security, ethical hacking, threat analysis and digital forensics, it sparked dynamic discussions as well as broadened participants' understanding of emerging security trends and technologies.

### BENEFITS

#### Core Benefits and Takeaways

1 Through live demos, practical exercises, and an engaging Capture the Flag competition, participants applied theory to authentic cybersecurity scenarios, strengthening problem-solving and confidence in tackling real-world threats.

#### Workshop Highlights

2 Interactive sessions with leading cybersecurity professionals offered guidance on technical best practices and career strategies, while personalized feedback gave participants clarity on complex topics and direction for growth.

#### Strategic Gains from CipherX

3 Coverage of advanced topics like quantum computing's impact on encryption, SOC methodologies, OSINT strategies, and AI-driven security applications equipped attendees with the foresight and adaptability needed for the evolving digital landscape.

#### Transformative Benefits for Participants

4 By fostering dialogue, teamwork, and peer learning, the workshop built a supportive professional community. Participants left with enhanced skills, lasting connections, and a shared commitment to advancing cybersecurity resilience.

### 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.

**294**

Total entries recorded

**15 Hours**

Scheduled Time

**5**

Number of Experts

**Aryabhata Auditorium**

Silver Oak University

**29<sup>th</sup> July - 02<sup>nd</sup> August 2025**

01:00 P.M. - 04:00 P.M.

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# INTRODUCTION

At the forefront of cybersecurity innovation, “**CipherX: Decode the Digital Battlefield**” was expertly crafted under the aegis of **IEEE Computer Society Gujarat Chapter**, **Silver Oak University IEEE Student Branch** and **Silver Oak University IEEE Computer Society Student Branch Chapter** with **Cyber Octet Pvt. Ltd.**

Spanning five days, the workshop offered an in-depth, practical immersion into the field of cybersecurity, highlighting its practical application and making participants ready to tackle digital threats confidently. Traversing through the interface between research and practice, it brought together cybersecurity professionals, passionate learners as well as academic researchers to explore the imperative role that cybersecurity plays in today's digital age. This workshop encompassed a diverse array of topics, including system alongside network security, ethical web penetration, SOC essentials, encryption, digital forensics and compliance.



# ABOUT THE EXPERTS



**Mr. FALGUN  
Rathod**

Managing Director &  
Founder of Cyber Octet  
Pvt. Ltd.



**Ms. DISHA  
NAIR**

Cyber Security Analyst  
at Cyber Octet Pvt. Ltd.



**Mr. JAINISH  
SHAH**

Sr. Cyber Security  
Analyst  
at Cyber Octet Pvt. Ltd.



**Mr. KAUSHIK  
DHANDHALA**

Cyber Security Analyst  
at Cyber Octet Pvt. Ltd.



**Mr. SAGAR  
PATEL**

Trainer & Cyber Security  
Analyst at Cyber Octet  
Pvt. Ltd.

# INAUGURATION

CipherX: Decode the Digital Battlefield inaugurated with traditional rituals of Deep Pragtya and Saraswati Vandana, infusing the atmosphere with a sense of reverence and purpose. The ceremonial lamp lighting, led by Dr. Satvik Khara, Mr. Falgun Rathod, Mr. Jainish Shah, Prof. Parimal Patel and Dr. Monali Suthar marked the official beginning of the workshop.

Addressing the gathering, Dr. Satvik Khara mentioned the rising importance of cyber resilience in this rapidly evolving digital landscape. He encouraged participants to actively apply the knowledge and skills they would gain from CipherX, leveraging the resources provided to make a meaningful impact. He also emphasised the value of fostering cybersecurity awareness and staying informed about the latest developments to effectively tackle emerging cyber threats.

Adding a creative dimension, students presented a short skit that began with a character whose greed led him into a cyber fraud. Later, his friend revealed the mistake and guided him towards safe online practices, illustrating how small actions in the digital world can have serious consequences.



# GLIMPSES OF INAUGURATION



The event commencing with curators addressing the audience and setting tone for the conclave



Traditional Deep Pragatya being performed by esteemed dignitaries to mark an auspicious beginning



Dr. Satvik Khara addressing audience on the importance of cybersecurity in today's digital world



A skit to spread awareness about cyber fraud and ways to stay safe online

# DAY 1

## FOUNDATIONS & FIRST CLICKS

CipherX began its journey with an inspiring keynote address by Mr. Falgun Rathod, setting the stage for an immersive exploration into the dynamic realm of cybersecurity. Drawing from his rich industry experience, he guided participants on the importance of certifications for career growth and unveiled the emerging convergence of quantum computing with cybersecurity. Emphasizing the disruptive era ahead, he underscored the urgency of preparing for post-quantum cryptography. His remark, "Quantum computers will not just speed things up, they will break things down. Our current encryption systems won't stand a chance once quantum capabilities mature", left the audience with a sense of both awe and responsibility.

The discussion seamlessly transitioned to real-world cybersecurity challenges, covering vulnerabilities, penetration testing, and the role of social engineering, where human psychology often becomes the weakest link. Mr. Falgun Rathod stressed the significance of Zero Trust architecture as the bedrock of modern security frameworks and pointed out the growing legal recognition of Artificial Intelligence as admissible evidence in cyber law. Through practical insights and relatable examples, he painted cybersecurity not as isolated topics but as an interconnected ecosystem involving Large Language Models, risk management, network security, VAPT and cloud security, all demanding strategic awareness and adaptability as much as technical expertise.

The keynote transitioned into an in-depth exploration of white, black, and grey box testing, highlighting their distinct roles in uncovering security flaws. This was followed by an engaging explanation of sniffing versus snooping, culminating in a live Wireshark demo that brought packet analysis on the TCP/IP model to life. The session wrapped up with an interactive Q&A, where Mr. Rathod urged participants to learn from at least one cybersecurity resource daily, a small step toward mastering an ever-evolving field. It concluded on a gracious note as Dr. Satvik Khara honored Mr. Rathod with a token of gratitude, to which he reciprocated by presenting his latest book, "A Guide to Cyber Security and Data Privacy", as a gesture of shared wisdom and gratitude.

# GLIMPSES OF DAY 1



Mr. Falgun Rathod introduced key cybersecurity concepts to familiarize participants from diverse domains



Speaker detailed the agenda and outlined the diverse career pathways available in cybersecurity



Audience immersed themselves as the expert shed light on evolving dynamics of cybersecurity



Dr. Satvik Khara presenting a memento to Mr. Falgun Rathod as a token of gratitude for his valuable insights

# DAY 2

## SYSTEM & NETWORK DEFENSE

The second day commenced with an application-driven session by Mr. Kaushik Dhandhala, who simplified complex cybersecurity concepts with clear insights. Starting with distinctions between hardware, software and next-generation firewalls, he explained their roles in combating modern threats. Attendees were also introduced to Endpoint Detection and Response (EDR), which enhances security beyond traditional antivirus solutions. Using real-world examples and comparisons, he illustrated the synergy between antivirus tools and EDR in today's digital landscape.

Building on this momentum, Mr. Jainish Shah conducted a practice-focused session on antivirus protection systems, emphasizing real-world scenarios over textbook definitions. He highlighted the importance of timely software updates, risks of unpatched systems and the inner workings of antivirus programs. A live hands-on activity with tools like Sophos bridged theory with application, enabling participants to experience cybersecurity in action.

The final session by Mr. Sagar Patel focused on operating system hardening, addressing vulnerabilities caused by default settings, inactive accounts, and weak configurations. He shared best practices such as access restrictions, strong authentication and effective firewall management, reinforced through a case study. The day wrapped up with an interactive Q&A, where participants solicited expert guidance on advanced security measures. It concluded on a gracious note with felicitations, Dr. Satvik Khara honored Mr. Sagar Patel, Prof. Parimal Patel recognized Mr. Jainish Shah and Prof. Gaurav Tiwari presented a token of appreciation to Mr. Kaushik Dhandhala for their impactful sessions.

# GLIMPSES OF DAY 2



Mr. Kaushik Dhandhala explained the synergy between antivirus solutions and EDR in today's digital landscape



Mr. Jainish Shah demonstrated the functions of antivirus software in conjunction with live firewalls demonstration



Mr. Sagar Patel demonstrated Wireshark for packet analysis and vulnerability detection



Day 2 concluded with an engaging Q&A session between participants and speakers

# DAY 3

## ETHICAL WEB HACKING & SOC FUNDAMENTALS

As CipherX reached its midpoint, the audience was guided through immersive, real-time cyber scenarios by two domain experts. Mr. Falgun Rathod opened this segment with a striking live demonstration of exploitation techniques, giving participants a rare glimpse into the mindset and methods of real-world attackers. Through hands-on illustrations, he guided participants through SQL injection attacks and other web-based vulnerabilities, demonstrating how breaches occur and how ethical hackers patch them to prevent future incidents. He underscored the importance of key skills to becoming an aspiring ethical hacker, including critical thinking, technical expertise, being flexible and having an investigative attitude.

Building on the discussion, Mr. Sagar Patel shifted the focus to Security Operations Centre, the command centers that monitor and respond to cyberattacks in real time. He shared seasoned insights on how these centers are positioned within organisations and highlighted their operational significance. To provide a practical perspective, he demonstrated a live phishing attack using Zen-Map, showcasing the strategies used by attackers alongside how SOC teams detect and respond to such threats. He also introduced participants to other key cybersecurity domains such as Vulnerability Assessment, Penetration Testing, Digital Forensics and associated fields, each making a distinct contribution toward building a more secure digital environment.

This pivotal phase of CipherX delivered an interdisciplinary and immersive learning experience, merging live demonstrations with strategic insights. Attendees gained a dual perspective, understanding offensive techniques leveraged by attackers and the coordinated defensive measures deployed by professionals. The session concluded with an engaging Q&A, where participants explored practical strategies to tackle emerging threats, reinforcing a holistic grasp of the modern cybersecurity landscape.

# GLIMPSES OF DAY 3



Illustrating key ethical hacking skills, Mr. Falgun Rathod combined live exploits with prevention strategies



Mr. Falgun Rathod showcased SQL injection and web vulnerabilities, revealing real-world attack strategies



Mr. Sagar Patel demonstrated a live phishing attack with Zenmap, showing SOC threat detection and response



Day 3 concluded with an interactive Q&A session addressing participants' queries and concerns

# DAY 4

## ENCRYPTION, FORENSICS & COMPLIANCE

The penultimate day of CipherX unfolded with an interactive session led by Mr. Sagar Patel, who began by revisiting participants' key takeaways from earlier discussions. Setting the stage for cryptography in cybersecurity, he introduced it as the science of securing information through encryption and decryption. He explained three core types symmetric, asymmetric and hashing by highlighting techniques like public/private key encryption for asymmetric models and SHA-256 for hashing. Demonstrating the versatility of CyberChef, Mr. Patel showcased practical applications such as binary-to-hexadecimal conversions and even illustrated how Morse code qualifies as a cryptographic method while distinguishing it from steganography. The session culminated with an insightful dive into the Caesar cipher, tracing its origin, applications, and historical relevance.

Building on this foundation, Ms. Disha Nair shifted the focus to Governance, Risk and Compliance (GRC), offering an organisational lens to cybersecurity. She unpacked the fundamentals of governance, emphasizing leadership roles, policies, procedures, and risk assessment strategies. Introducing the formula for standard risk ( $\text{Probability of Threat} \times \text{Vulnerability} \times \text{Impact}$ ), she explored compliance models, internal policies, standard operating procedures and the Information Security Management System (ISMS). Her session highlighted how governance forms the backbone of robust cybersecurity frameworks.

The day concluded with Mr. Sagar Patel returning to spotlight digital forensics and its crucial role in cyber investigations. He elevated the energy with a live Capture the Flag lab, where participants engaged with real-world scenarios, tested their skills and experienced the thrill of cyber problem-solving. The day ended on a gracious note as Prof. Parimal Patel presented a token of appreciation to Ms. Disha Nair, acknowledging her dynamic insights and impactful contributions.

# GLIMPSES OF DAY 4



Ms. Disha Nair explained GRC's core elements and its role in strengthening cybersecurity



expert outlined risk formulas, compliance models, and ISMS, offering an organisational security perspective



Mr. Sagar Patel highlighted digital forensics fundamentals and their role in cyber investigations



Participants experienced a hands-on Capture the Flag lab as a preview to the final day's competition

# DAY 5

## CAPTURE THE FLAG

Wrapping up the workshop, the final day ended on a vibrant note, with a high-energy Capture the Flag challenge designed to test participants' technical expertise, creativity and critical thinking under intense pressure of time. Drawing inspiration from the theme of the Golmaal movie, this competition infused humor and a lighthearted twist into the otherwise rigorous technical grind, making the experience more dynamic, enjoyable, and memorable. Over three hours, participants raced to capture seven flags, tackling challenges in OSINT, cryptography, reverse engineering and steganography, sharpening both problem-solving abilities and analytical skills in a competitive setting.

To keep the atmosphere light and interactive, moderators introduced enjoyable side activities that allowed participants to earn clues and balance intensity with moments of levity. Trainers from Cyber Octet, comprising Mr. Falgun Rathod, Ms. Bhoomika Pathak, Mr. Savan Kapadia, Mr. Sagar Patel and Ms. Disha Nair, remained available throughout to address questions and offered immediate, hands-on feedback. Their guidance not only enhanced the technical value but also created an environment of approachable mentorship to the competition. Commemorating the occasion, Dr. Satvik Khara honored Ms. Bhoomika Pathak, M.D. of Cyber Octet Pvt. Ltd. for her invaluable contribution as tech partner, bringing the workshop to a memorable close.

The five-day workshop drew to a close with a formal award ceremony, Dr Satvik Khara joined by Mr. Falgun Rathod and the Cyber Octet team presented prizes to the top three winners of the CTF competition. Mr. Heer Patel achieved first place and received an opportunity to join as an intern at Cyber Octet, Mr. Urvish Patel secured second place and Mr. Aarav Dungrani earned recognition in third position, bringing the workshop to a celebratory and inspiring finish.

# GLIMPSES OF DAY 5 - CTF



Participants delved into the intricacies of CTF competition, demonstrating sharp critical thinking skills



Dr. Satvik Khara honored Ms. Bhoomika Pathak for her key role as tech partner at CipherX



Mr. Falgun Rathod presented his book to the CTF winner



Winners stand alongside dignitaries, commemorating their achievements at the event's conclusion

# CONCLUSION

“CipherX: Decode the Digital Battlefield” became a testament to empowering participants with knowledge, inspiration and a deepened interest in the evolving future of cybersecurity. Over five days, participants engaged in immersive sessions led by seasoned experts who seamlessly connected fundamental concepts with advanced security practices. From foundational first clicks to complex areas like web hacking and social engineering, the blend of practical exercises, interactive discussions as well as industrial insights made this workshop both intellectually stimulating and highly informative.

Beyond technical expertise, this bootcamp nurtured a vibrant atmosphere of learning, collaboration and critical thinking. The hands-on sessions and engaging Q&A segments enriched the experience, allowing participants to deepen their understanding and clarify complex concepts. The Capture the Flag competition added an exciting edge, sparking a strong sense of determination among students to excel and strive for success. With grateful hearts and inspired minds, this gathering marked not just an ending, but the beginning of many more milestone events to come.

The success of this workshop was made possible under the guidance and support of Dr. Satvik Khara, Dean, College of Technology, Silver Oak University; IEEE Senior Member; Chairperson, Technical Activity, Computer Society, IEEE Gujarat Section; Founding Member, Silver Oak University IEEE Student Branch. His visionary leadership and unwavering support played a pivotal role in fostering an environment of learning and innovation.



# ATTENDEES REPORT



## NUMBER OF ATTENDEES

Guest Attendees = 196

IEEE Attendees = 98

# VOLUNTEERS CREDIT

## Creative Team

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