ECHELON 2K26 Hackathon at NIT Surat: AI × Cybersecurity CTF and 24-Hour Innovation Challenge

Online CTF Round: 17 January 2026

Offline 24-Hour Hackathon: 31 January 2026

In the rapidly evolving digital era, two domains are shaping the future of technology more than ever — Artificial Intelligence and Cybersecurity. While AI is redefining automation, intelligence, and decision-making, cybersecurity is becoming the backbone of trust, privacy, and digital safety. Bringing these two powerful domains together, ECHELON 2K26 emerges as a national-level AI × Cybersecurity Hackathon hosted by National Institute of Technology (NIT) Surat.

ECHELON 2K26 is not just another hackathon — it is a platform designed to challenge young innovators, ethical hackers, developers,
and security enthusiasts to think beyond conventional solutions. The event combines an Online Capture The Flag (CTF) round with an
intense 24–hour offline hackathon, testing both theoretical understanding and real-world problem-solving skills.

This blog provides a complete and detailed overview of ECHELON 2K26, including its structure, themes, eligibility, benefits,
preparation strategy, and why it stands out as a must-participate event for students and professionals interested in AI and
cybersecurity.

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ABOUT ECHELON 2K26

ECHELON 2K26 is a premier technology competition that blends the analytical depth of cybersecurity with the innovative potential
of artificial intelligence. The hackathon is designed to simulate real-world security challenges where participants must analyze
threats, build intelligent systems, and propose scalable solutions.

Unlike generic coding events, ECHELON focuses heavily on problem relevance. The challenges are aligned with modern cyber threats
such as data breaches, phishing attacks, malware detection, AI-based intrusion systems, and secure system design. Participants are
encouraged to think like defenders, attackers, and system architects at the same time.

The name “ECHELON” symbolizes layers of defense, intelligence, and coordination — values that perfectly represent the intersection
of AI and cybersecurity. By participating in ECHELON 2K26, teams step into a competitive environment that mirrors industry-grade
security scenarios.

ABOUT NIT SURAT

The National Institute of Technology, Surat (also known as SVNIT Surat), is one of India’s most prestigious technical
institutions. Known for academic excellence, innovation, and strong industry connections, NIT Surat has consistently contributed
to research and development in engineering and technology.

Events hosted by NIT Surat are recognized for their quality, competitive standards, and learning-oriented approach. ECHELON 2K26
continues this legacy by providing a structured yet creative platform for students and

professionals to demonstrate their skills
in emerging domains.

Being associated with an event organized by NIT Surat adds significant value to a participant's academic and professional profile.
It reflects exposure to high-level competition and collaboration with some of the brightest minds in the country.

EVENT STRUCTURE OVERVIEW

ECHELON 2K26 is structured into two major phases, each designed to test different skill sets. The first phase focuses on
cybersecurity fundamentals through an online Capture The Flag competition, while the second phase emphasizes innovation, teamwork,
and endurance through an offline hackathon.

This two-stage format ensures that only well-prepared and genuinely interested teams advance to the final round. It also provides
participants with multiple opportunities to showcase their strengths, whether in security analysis, coding, system design, or AI
model development.

ONLINE CTF ROUND (17 JANUARY 2026)

The first phase of ECHELON 2K26 is an Online Capture The Flag (CTF) round scheduled for 17 January 2026. This round acts as a
qualifying stage and is designed to test participants' understanding of cybersecurity concepts in a practical and competitive
environment.

A CTF competition typically consists of multiple challenges where participants must identify vulnerabilities, analyze systems,
exploit weaknesses ethically, and retrieve hidden “flags” as proof of successful problem solving. These challenges simulate
real-world cybersecurity scenarios faced by security professionals across industries.

The online nature of this round allows teams from different regions to participate without travel constraints. It also ensures a
fair and standardized evaluation process where teams are ranked based on accuracy, speed, and problem-solving efficiency.

Performance in the Online CTF round determines shortlisting for the offline hackathon. This makes the CTF round extremely
important, as it filters participants who possess strong fundamentals and analytical thinking skills.

KEY AREAS COVERED IN THE ONLINE CTF

* Web application security and vulnerability analysis
* Cryptography and encryption-based challenges
* Reverse engineering and binary exploitation
* Network security and packet analysis
* Basic AI-assisted threat detection scenarios

OFFLINE 24–HOUR HACKATHON (31 JANUARY 2026)

The second and final phase of ECHELON 2K26 is a 24–hour offline hackathon scheduled for 31 January 2026. This round is conducted

in a high-energy, on-site environment where shortlisted teams collaborate intensively to build innovative solutions.

During the hackathon, teams are expected to identify a problem statement within the AI × cybersecurity domain and develop a working prototype or conceptual solution within the given time frame. The event emphasizes not only technical execution but also creativity, feasibility, and real-world applicability.

The 24–hour continuous format challenges participants' endurance, teamwork, and time management skills. Teams must divide responsibilities effectively, whether it involves research, model training, system design, coding, testing, or documentation.

Mentors and coordinators are typically available throughout the event to provide guidance, clarify rules, and ensure smooth execution. The offline hackathon experience also promotes peer learning and networking among participants from diverse backgrounds.

EVALUATION CRITERIA FOR THE OFFLINE HACKATHON

* Innovation and originality of the idea
* Technical depth and correct use of AI or security concepts
* Practical relevance and real-world impact
* Quality of implementation and system design
* Team collaboration and presentation clarity

AI × CYBERSECURITY FOCUS AREAS

The central theme of ECHELON 2K26 revolves around the integration of artificial intelligence with cybersecurity. This intersection
is rapidly gaining importance as traditional security systems struggle to handle the scale and complexity of modern cyber threats.

AI-powered security solutions can analyze large volumes of data, detect anomalies, and respond to threats faster than manual or
rule-based systems. ECHELON encourages participants to explore such intelligent approaches to improve detection, prevention, and
response mechanisms.

Participants may work on problems related to automated threat detection, predictive analysis, intelligent firewalls, or AI-based
monitoring tools. The goal is not just to build complex systems but to design solutions that are explainable, scalable, and
ethically responsible.

By focusing on AI × cybersecurity, ECHELON 2K26 aligns itself with current industry trends and prepares participants for future
roles where interdisciplinary knowledge is a key requirement.

WHO CAN PARTICIPATE IN ECHELON 2K26

ECHELON 2K26 is designed to be inclusive while maintaining a competitive standard. The hackathon welcomes participants who have a
genuine interest in artificial intelligence, cybersecurity, and problem-solving. It is especially suitable for students who wish
to gain hands-on exposure beyond classroom learning.

Typically, the event is open to undergraduate and postgraduate students from engineering, technology, computer science,
information technology, and related disciplines. Participants from allied domains who possess relevant technical skills are also
encouraged to apply.

Teams are generally formed with multiple members to promote collaboration and division of responsibilities. Each team benefits
from having a mix of skills such as programming, security analysis, machine learning, system design, and presentation abilities.

Individual participation may be allowed depending on event guidelines, but team-based participation is strongly recommended for
the offline hackathon to handle the intensity of a 24–hour development cycle.

SKILLS THAT CAN HELP YOU PERFORM BETTER

* Basic understanding of cybersecurity concepts
* Programming knowledge in languages like Python, C++, or JavaScript
* Familiarity with machine learning or data analysis
* Logical thinking and analytical problem-solving
* Ability to work under time constraints as a team

WHY YOU SHOULD PARTICIPATE IN ECHELON 2K26

Participating in ECHELON 2K26 offers much more than just competition. It provides a learning environment where participants can
apply theoretical concepts to real-world security challenges. This exposure is critical for anyone aspiring to build a career in

AI or cybersecurity.

The hackathon format encourages innovation and experimentation. Participants are free to explore unique approaches, test new
ideas, and learn from both success and failure. Such experiences build confidence and strengthen technical intuition.

Being part of a national-level event hosted by NIT Surat also adds credibility to a participant's profile. It reflects dedication,
competitive spirit, and the ability to perform under pressure — qualities highly valued by recruiters and academic institutions.

Moreover, the event fosters collaboration and networking. Participants get the opportunity to interact with peers who share
similar interests, creating connections that may prove valuable in future projects or professional journeys.

KEY BENEFITS OF PARTICIPATING

* Hands-on experience with AI and cybersecurity applications
* Improved problem-solving and critical thinking skills
* Exposure to competitive and real-world security scenarios
* Opportunity to enhance your resume and academic profile
* Learning through teamwork and peer collaboration

LEARNING OUTCOMES AND SKILL DEVELOPMENT

ECHELON 2K26 is structured to maximize learning outcomes for participants. From the online CTF round to the offline hackathon,

each stage contributes to skill enhancement in a unique way. Participants gain practical insights that are difficult to acquire
through traditional coursework.

The CTF round sharpens analytical thinking and vulnerability assessment skills, while the offline hackathon strengthens system
design, implementation, and decision-making abilities. Together, these experiences create a well-rounded learning journey.

Participants also develop soft skills such as communication, leadership, and time management. These skills play a crucial role in
professional growth and are often assessed indirectly during technical interviews and project evaluations.

PREPARATION STRATEGY FOR ECHELON 2K26

Proper preparation plays a crucial role in performing well at ECHELON 2K26. Since the event includes both a cybersecurity-focused
CTF round and an AI-driven hackathon, participants should adopt a balanced preparation approach that covers theory, practice, and
teamwork.

Instead of attempting to master everything at once, participants should focus on strengthening their fundamentals and
understanding how different technologies interact in real-world systems. A clear conceptual foundation often proves more valuable
than memorizing advanced tools.

PREPARING FOR THE ONLINE CTF ROUND

For the online CTF round, participants should familiarize themselves with common cybersecurity challenges. Practicing on
beginner-friendly platforms can help develop an intuitive understanding of vulnerabilities and exploitation techniques.

* Revise basics of networking, HTTP protocols, and system architecture
* Understand common web vulnerabilities and secure coding practices
* Practice logical problem-solving under time constraints
* Learn how to read logs, error messages, and encoded data

PREPARING FOR THE OFFLINE HACKATHON

The offline hackathon requires a different type of preparation. Teams should practice collaborative development and rapid
prototyping. Clear role distribution before the event can save valuable time during the 24-hour development window.

It is also advisable to brainstorm potential problem areas within AI × cybersecurity in advance. This allows teams to quickly
adapt when the final problem statements are announced.

* Practice building small AI models for classification or anomaly detection
* Understand how to integrate AI models with applications or security systems
* Prepare simple documentation and presentation templates
* Focus on clarity and feasibility rather than over-complexity

CAREER IMPACT AND FUTURE OPPORTUNITIES

Participation in ECHELON 2K26 can have a meaningful impact on a participant's academic and professional journey. Hackathons like
ECHELON provide practical exposure that aligns closely with industry expectations.

Recruiters and mentors often value hackathon experience because it demonstrates the ability to apply knowledge under pressure,
work in teams, and solve open-ended problems. Listing ECHELON 2K26 on a resume highlights a candidate's initiative and commitment
to skill development.

For students interested in higher studies or research, the event offers an opportunity to explore interdisciplinary problem
statements. Ideas developed during the hackathon may later evolve into academic projects, research papers, or startup concepts.

As AI and cybersecurity continue to converge, professionals with combined expertise will be in high demand. ECHELON 2K26 helps
participants take an early step toward such future-ready career paths.

CONCLUSION

ECHELON 2K26 stands as a thoughtfully designed AI × Cybersecurity Hackathon that challenges participants to move beyond
conventional learning. With its structured format, real-world problem focus, and emphasis on innovation, the event offers a
comprehensive learning experience.

From the online CTF round on 17 January 2026 to the intense 24–hour offline hackathon on 31 January 2026, participants are tested
on technical knowledge, creativity, teamwork, and resilience. Each phase contributes to

personal and professional growth.

For students and technology enthusiasts looking to explore the intersection of artificial intelligence and cybersecurity, ECHELON
2K26 organized by NIT Surat is a valuable opportunity. It is not just a competition, but a platform to learn, innovate, and
prepare for the challenges of the digital future.