CYBERSECURITY AND ETHICAL HACKING WITH APPLIED AI

FROM iHUB DIVYASAMPARK, IIT ROORKEE

About iHUB DivyaSampark, IIT Roorkee

The Indian Institute of Technology Roorkee, with a legacy of over 175 years, was established in 1847 as India's first engineering college. It became an IIT in 2001 and has since excelled in engineering and technology.

- **iHUB DivyaSampark IIT Roorkee:** DivyaSampark aims to foster research and innovation towards product and technology development and commercialisation in CPS, with a strong emphasis on smart devices and smart materials.

- **Rankings:** IIT Roorkee consistently ranks among the top engineering and research institutions in India. In the NIRF India Rankings 2024, IIT Roorkee was ranked #6 in the 'Engineering' category and #8 in the 'Overall' category.

- **Strong Industry & Research Ecosystem:** With active collaborations, incubators, and innovation hubs, IIT Roorkee bridges academia and industry to drive real-world impact.

- **Industry-Focused Learning:** IIT Roorkee maintains strong ties with industries across its campus locations, providing students with opportunities for internships, real-world projects, and networking with business leaders.
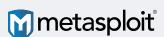
Why Choose This Course?

- **Certification from iHUB DivyaSampark, IIT Roorkee:** Receive a Certificate of Completion from iHUB DivyaSampark, IIT Roorkee, recognising your achievement.

- **Campus Immersion:** An optional 3 day campus immersion for direct interaction with industry experts and peers.

- **Future Proof Career Gateway:** Launch into a high-growth, future-proof CyberSecurity career with in-demand skills.

- **Advanced Curriculum:** Access cutting-edge cybersecurity content, engaging simulations, and practical evaluations. Focus on real-time project implementation for hands-on mastery.

- **Case Based Learning:** Engage in real-world, case-based sessions that connect theory with practical CyberSecurity challenges.

- **World Class Faculty:** Learn directly from IIT's top-tier faculty and industry experts

What Will You Learn?

Elevate your cybersecurity prowess. Learn to conduct ethical hacks, defend against sophisticated threats, and integrate AI for unparalleled security. Drive your career forward with a robust portfolio built from hands-on labs simulating real-world cyberattacks and defenses. Build skills to secure your place as a high-impact cybersecurity professional, ready to lead with data-driven strategies and fortify digital assets.

Toolkit

Course Details

Course Duration	Time Commitment
6 Months	4-5 hours per week

Certification
iHUB DivyaSampark IIT Roorkee

Course Curriculum

Module 1:
Cybersecurity Foundations & Evolving Threat Landscapes

- Introduction to Cybersecurity Fundamentals
- Networking Essentials for Security
- Understanding the Evolving Threat Landscape

Module 2:
Ethical Hacking, Footprinting & Vulnerability Assessment

- Ethical Hacking Methodologies
- Footprinting and Reconnaissance Techniques
- Vulnerability Assessment Strategies

Module 03:
Advanced Network Security & Incident Response

- Advanced Network Security Controls
- Security Operations Center (SOC) and SIEM
- Comprehensive Incident Response

Module 4:
Secure Coding Practices & Application Security

- Secure Software Development Lifecycle (SSDLC) Integration
- Deep Dive into Web Application Vulnerabilities
- Secure Coding Best Practices

Module 5:
AI-Driven Cybersecurity: Detection, Automation & Defense

- Leveraging AI/ML for Cybersecurity
- AI for Security Automation and Orchestration
- Adversarial AI and Defense

Our Instructors

Dr. Tapan K Gandhi
Professor, Electrical Engineering, IIT Delhi

Electrical Engineering and Cadence Chair Professor of AI and Automation at IIT Delhi, also holding joint and adjunct faculty positions in AI schools at IIT Delhi and IIT Jodhpur. He earned his Ph.D. in Biomedical Engineering from IIT Delhi (Project Prakash, MIT, USA), followed by postdoctoral work at MIT. An award-winning INSPIRE Faculty, his extensive research in computational neuroscience, AI, and machine learning has led to over 250 publications in top journals like Science and Nature, and numerous accolades.

Dr. Gaurav Varshney
Assistant Professor, Computer Science & Engineering, IIT Jammu

Dr. Gaurav Varshney is an Assistant Professor at IIT Jammu, holding M.Tech and PhD degrees from IIT Roorkee. His expertise lies in network and cyber security, and cryptography, which are also his primary teaching interests. He has a rich research background, with experience at institutions like TRDDC Pune, Qualcomm, SUNY Albany, SUTD Singapore, and the University of Newcastle Australia. He actively publishes research and guides scholars in his field.

Admission Process

Clear Qualifier Test
You must pass the exam to confirm your seat for the program.

Complete Onboarding
Only shortlisted candidates go through the onboarding process.

Start Learning
Learn from India's top educators and stand out from the crowd.

Fees Structure

Qualifier Test Fee (Non-Refundable)	₹99	

	Option 1	Option 2
	Upfront	**EMI** Through Our NBFC Partners
Secure Seat Fee (Non-Refundable)	₹4,000	₹4,000
Remaining Course Fee (Non-Refundable)	₹56,000	₹7,156 x 9 months
Total Program Fee	₹60,000 + GST*	₹68,404 + GST*

*GST at 18% extra, as applicable