



Experts/Speakers-

- Prof. Vijay Laxmi, MNIT Jaipur
- Dr. Ramesh Babu Battula, MNIT Jaipur
- Smita Naval, MNIT Jaipur
- Dr. Vikash Kumar, MNIT Jaipur
- Experts from IITs
- Experts NITs
- Experts Industry
- Experts Academia

An intensive 40-Hour Training Programme in online mode is being organized for faculty, doctoral students of engineering and technological institutions. Working professionals from industry/organizations are also invited to attend. The main theme of the training program will be oriented around exploring the state-of-the-art methods for machine learning techniques and their applications in malware analysis. The programme will be run during 03:00–7:00 PM.

Programme Modules:

Module 1 | Introduction to Malware and Cyber Threat Landscape:

Evolution of malware; Types of malware: Virus, Worm, Trojan, Ransomware, Spyware, Rootkits; Attack vectors and infection mechanisms; Malware kill chain & MITRE ATT&CK framework.

Module 2 | Malware Analysis Fundamentals:

Static vs Dynamic malware analysis; Behavioral analysis and sandboxing; Malware obfuscation and packing techniques; Tools: IDA Pro, Ghidra, PE Studio, Cuckoo Sandbox. Hands-on: Static analysis of Windows PE malware samples; Behavioral analysis in sandboxed environments.

Module 3 | Feature Engineering for Malware Detection:

Binary feature extraction; Opcode analysis and n-grams; API call and system call features; Network traffic and behavioral features. Hands-on: Feature extraction from malware datasets; Malware dataset preprocessing.

Module 4 | Machine Learning Techniques for Malware Detection:

Supervised ML: SVM, Random Forest, KNN, Naïve Bayes; Unsupervised ML: Clustering, anomaly detection; Evaluation metrics for malware detection. Hands-on: Building ML models for malware classification; Performance evaluation and comparison.

Module 5 | Deep Learning for Advanced Malware Analysis:

CNNs for malware image classification; RNN/LSTM for sequential API call analysis; Autoencoders for anomaly detection; Transfer learning in malware detection. Hands-on: Deep learning model for malware classification; Malware detection using neural networks.

Module 6 | Adversarial Malware & AI Security: Adversarial malware generation; Evasion techniques against ML models; Poisoning and concept drift; Secure and robust malware detection. Case Study: AI evasion attacks in real-world malware.

Module 7 | AI-Driven Malware Detection in Cloud, IoT & Mobile: Android malware detection using AI; IoT malware (Mirai, botnets); Cloud-based malware detection; Edge AI for malware defense. Hands-on: Android malware dataset analysis; IoT malware traffic analysis.

Programme Coordinator

Dr. Prasanta Majumdar

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Objective (Electronics & ICT Academy-Phase II)

- 1) To conduct specialized FDPs for faculty/mentor training in line with the vision of MeitY in high-priority areas supporting the "Make in India" and the "Digital India" programs.
- 2) To promote synergy and collaboration with industry, academia, universities and other institutions of learning
- 3) To support the National Policy on Electronics 2019 (NPE 2019), which envisions positioning India as a global hub for ESDM sector, including MeitY Schemes/policies such as Programme for Semiconductors and Display Fab Ecosystem; India AI; National Programme on AI, Production Linked Incentive Scheme for IT Hardware & Large-Scale Electronics Manufacturing; EMC; SPECS; Chips to System (C2S); etc.
- 4) To promote standardization of FDPs through Joint Faculty Development Programmes.

Registration:

Registration is open to faculty, working professionals, industry persons, doctoral, postgraduate, and graduate students from India and the rest of the world. Participants will be admitted on a first-come, first-served basis.

Mode of programme	Registration Fee		
	India/SAARC/Africa		Rest of the world
	Academia (faculty/Students)	Others	
Online	Rs. 750/-	Rs. 1500/-	US \$ 60/- (18% GST extra)

- Fee once paid will not be refunded back; however, can be adjusted for a future programme.
- The fee covers online participation in the programme, tutorial, notes and examination, certification charges etc.
- The registration amount may be paid through online mode- NEFT/UPI/Cards/SWIFT, provided at the registration portal.
- Detailed schedule will be shared after receiving registration form

Register online at - <http://online.mnit.ac.in/eict/>

→ For queries, contact us at fdp.academy@mnit.ac.in



MNIT Jaipur one of the oldest NITs, the institute has a rich heritage of sixty years producing world class engineers, managers, architects and scientists. Ranked 42nd nationally in the NIRF ranking-2025 (Engineering), the institute offers learning opportunities for undergraduate, postgraduate students, and researchers in various domains. Having a lush green campus of over 317 acres within the heart of the pink city, close to Jaipur International Airport, the campus offers a safe and lively environment. A world class teaching infrastructure, state-of-art laboratories welcome you at the campus. The institute has a vision to impart education of international standards and conduct research at the cutting edge of technology.