



An Initiative of Ministry of Electronics & Information Technology (MeitY) Government of India

A Faculty Development Program

On

Cyber Security for Robotics and Unmanned Aerial Vehicles (UAV)

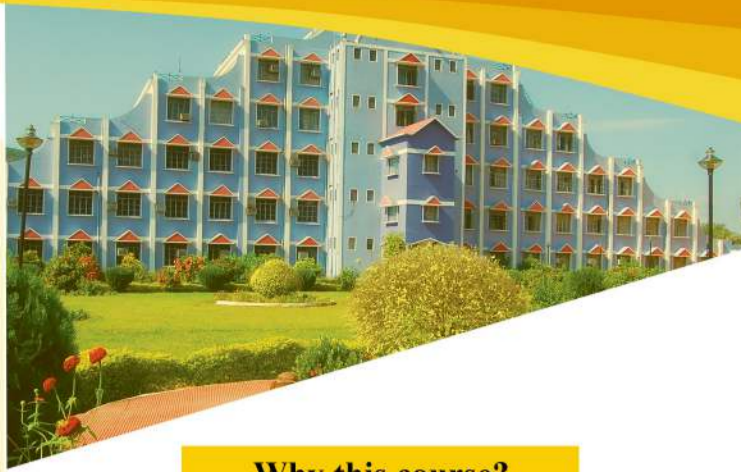
3/2/2025 to 7/2/2025

Under the aegis of

Electronics & ICT Academy, IIT Roorkee

In the collaboration with

GIET University, Gunupur (Hub) and Ajay Binay Institute of Technology Cuttack (Spoke)



Why this course?

The Faculty Development Program aims to equip faculty members and researchers with the knowledge and skills needed to understand, assess, and enhance the cyber security aspects of robotics and UAV systems. It focuses on practical applications, challenges, and solutions related to securing autonomous systems against potential cyber threats.

Objectives of the course

- To provide faculty members with a solid understanding of cybersecurity concepts as applied to robotics and UAV systems, including the CIA triad (Confidentiality, Integrity, and Availability).
- To educate participants on the common types of cyber threats and vulnerabilities specific to autonomous systems, including spoofing, jamming, data breaches, and denial of service (DoS) attacks.
- To equip participants with hands-on skills for implementing and testing cybersecurity measures, such as secure communication protocols and real-time threat detection systems.
- To enable participants to perform ethical hacking and penetration testing on robotic and UAV systems to identify and mitigate potential security risks.
- To develop the ability to implement and use machine learning and other advanced techniques for detecting and preventing real-time cyber-attacks.

Prerequisites

No experience is required, but fundamental knowledge of any programming language would be helpful.

Course Features

- 40 Hours of Lectures, Hands-on & Pedagogy/ Industry sessions
- Lectures from Expert Speakers, Hands-on from industry/Academia experts
- Access to learning material and video lectures
- Certificate by E&ICT Academy IIT Roorkee



Who Should Register?

Any Interested Faculty/PhD-Scholars UG/PG/ & Industry Persons can register.

These FDPs can be considered in alignment with other Quality Improvement Programs (QIP) as well as NBA and NAAC for recognition/credit.

Registration Fee

Fees: ₹ 250/participant, non-refundable (Applicable for all)
Note: Refund will be done in case of course cancellation only, within 20 working days

How to make Payment: <https://eict.iitr.ac.in/instruction-for-payment/>

Conference Code: EICTIITR-FDP-25-03

Registration Link: <https://forms.gle/ciug7HWnpWXNiBR4A>

Focus Areas

- Introduction to Cybersecurity for Robotics and UAV
- Understanding Cyber Threats and Vulnerabilities
- Secure System Design and Communication Protocols
- Ethical Hacking and Penetration Testing for Autonomous Systems
- Real-Time Cybersecurity Measures and Attack Prevention
- Emerging Trends and Future of Cybersecurity for Robotics and UAVs
- Threat Modeling and Risk Assessment: Techniques for evaluating security posture
- Cybersecurity Frameworks and Compliance: Implementing ISO/IEC 27001, NIST SP 800-53
- Security in UAV Navigation and Control Systems: Best practices for protecting flight control data
- AI and Cybersecurity: Leveraging artificial intelligence to strengthen system defenses



Accommodation

Accommodation on a sharing basis will be provided based on the availability of guest rooms on a paid basis.

Accommodation charge: (INR 1200/day/person)

Contact - sibofromgiет@giet.edu (9437234031) for booking

Principal Investigator

Prof. Sanjeev Manhas, ECE Department, IIT Roorkee

Course Coordinators

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