



Department of Information Science and Engineering

in association with

Staff Development Centre, Nitte DU

is organising

A Five-Day Faculty Development Program on

Machine Learning and Deep Learning Techniques for Cyber Security

Funded By:

IEEE Student Branch, NMAMIT & DLithe



IEEE Mangalore Subsection

8th January to 12th January 2024

Shambhavi Seminar Hall, A P J Kalam Block, NMAMIT, Nitte

Organised by:



**NMAM INSTITUTE
OF TECHNOLOGY**

Off Campus Centre of Nitte (DU)

Nitte, Karkala Taluk, Udupi District, Karnataka 574110

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The Department of Information Science & Engineering, NMAMIT, Nitte in association with Staff Development Centre, Nitte (DU) is organizing a five-day Faculty Development Program on **“Machine Learning and Deep Learning Techniques for Cyber Security”** from 8th January to 12th January 2024 at NMAM Institute of Technology, Nitte.

About NMAMIT, Nitte

Nitte Mahalinga Adyantaya Memorial Institute of Technology (NMAMIT), Nitte, established in 1986 and recognized by the All-India Council for Technical Education, New Delhi, has been a constituent college of Nitte (Deemed to be University), Mangaluru, since June 2022. Ranked between 101-150 band under Engineering category in the National Institutional Ranking Framework (NIRF) 2023 by MHRD, GoI among the engineering colleges in India, the College has been placed under ‘Platinum’ category for having high industry linkages by the AICTE-CII Survey of Industry-Linked Technical Institutes 2020. NMAMIT, the off-campus centre of Nitte DU located at Nitte village, has active collaborations with several international universities and organizations for faculty and student exchanges, research, internships and placements.

The Institute offers UG engineering program in fifteen disciplines; Artificial Intelligence & Machine Learning (AI&ML), Artificial Intelligence & Data Science (AI&DS), Biotechnology (BT), Civil Engineering(CIV), Computer & Communication Engineering (CCE), Computer Science & Engineering (CS), Computer Science (Full Stack Development), Computer Science (Cyber Security), Electrical & Electronics Engineering (E&E), Electronics & Communication Engineering (E&C), Electronics (VLSI Design & Technology), Electronics & Communication Engineering (ACT), Information Science & Engineering (IS), Mechanical Engineering (MECH) and Robotics & Artificial Intelligence (R&AI). Out of these programs, seven UG programs i.e., BT, CIV, CS, E&E, E&C, IS and MECH are accredited by NBA, New Delhi under Tier - I category till 30 June 2025. The institute also offers PG program M.Tech. in seven disciplines namely Construction Technology, Computer Science & Engineering, Cyber Security, Electric Vehicle Technology, Machine Design, Structural Engineering and VLSI Design & Embedded Systems as well as MCA program. All the departments have qualified research guides for students interested in taking up research work leading to Ph.D.

NMAMIT is located in a vibrant, serene and green campus at Nitte spread over 125 acres and is nestled in the Western Ghats of Southern India on the way to the Kudremukh ranges. The nearest airport is Mangaluru International Airport (45 km). The nearest railway stations are Udupi (40 km) and Mangaluru (50 km). Nitte is 19 km from NH-66 connecting Kochi (Kerala) and Panvel (Mumbai) and 7 km on NH-169 connecting Mangaluru and Solapur (Maharashtra).

About the FDP

This FDP explores the utilization of Machine Learning (ML) and Deep Learning (DL) techniques to bolster Cyber Security. Given the exponential increase in cyber threats, traditional security measures have proven insufficient, necessitating the integration of advanced, adaptive, and predictive technologies. This study delves into various ML and DL algorithms, their implementation, and their efficacy in detecting and mitigating cyber threats. We evaluate techniques such as Artificial Neural Networks, Support Vector Machines, and Random Forests for anomaly detection, malware classification, and intrusion detection, among other applications. Furthermore, we assess the capability of Deep Learning approaches, including Convolutional Neural Networks and Recurrent Neural Networks, to process large-scale, high-dimensional data for predictive cybersecurity. The study underscores the challenges, such as algorithmic transparency and data privacy, associated application of these methods, and proposes potential solutions. The findings from this research signify a pivotal shift from rule-based to intelligent, adaptive cybersecurity systems that could dramatically improve threat prediction, detection, and response.

- This FDP gives awareness about recent trends in cyber security and research gaps in this domain.
- This FDP educates about Machine Learning and Deep Learning APPROACHES FOR CYBER SECURITY.
- BLOCKCHAIN MODELS towards cyber security will be addressed.
- Hands-on sessions will give practical exposure to the participants.
- After completing the FDP, the participants will be able to apply machine learning and deep learning concepts for intrusion detection and internet security.

Resource Persons:

- Dr. S Mohan, Professor, IIT Madras, Currently Vice-Chancellor of Puducherry Technical University, Puducherry.
- Dr. K Chandrasekaran, Professor, Dept. of CS&E, NITK Surathkal
- Dr. Anand Kumar M, Associate Professor, Dept. of IT, NITK Surathkal
- Dr. Amit Praseed, Assistant Professor, Dept. of CS&E, NIT Calicut
- Dr. Modi Chirag Navinchandra, Associate Professor, Dept. of CS&E, NIT Goa
- Dr. Rajendra Hegadi, Dean - Academic and Student affairs, Dept. of Data Science and Intelligent Systems, IIIT Dharwad
- Dr. Manish Kumar, Assistant Professor, Dept. of MCA, MSRIT, Bangaluru
- Dr. Prabhu Mohandas, Associate Professor, Dept. of CS&E, NIT, Calicut
- Dr. Roshan Fernandes, Professor & Head, Dept. of CS (Cyber Security), NMAMIT, Nitte

Registration:

Registration link: <https://forms.gle/kEy64WJW8y5WvF6XA>

Registration fee: Rs. 500/-**Account Details to remit fees:**

Account Holder : Nitte Deemed to be University
Account Number : 110047322915
Type of Account : Savings Bank
Bank : Canara Bank, Nitte
IFSC : CNRB0010115
MICR : 576015041

Last date to register: 1st January 2024

Note: Accommodation with nominal charges may be availed by participants only on prior request

Organizing committee**Chief Patron:**

Shri. N. Vinaya Hegde,
President, Nitte Education Trust & Chancellor, Nitte (Deemed to be University)

Patron:

Dr. Niranjan N Chiplunkar,
Principal, NMAM Institute of Technology, Nitte

Convener

Dr. Ashwini B,
Head – Dept. of IS&E, NMAM Institute of Technology, Nitte

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Members:

Mr. Deepak D, Assistant Professor, Dept. of IS&E, NMAMIT, Nitte

Ms. Deepa, Assistant Professor, Dept. of IS&E, NMAMIT, Nitte

Ms. Chinmai Shetty, Assistant Professor, Dept. of IS&E, NMAMIT, Nitte

Mr. Shrikanth Bhat K, Assistant Professor, Dept. of IS&E, NMAMIT, Nitte

Ms. Alaka Ananth, Assistant Professor, Dept. of IS&E, NMAMIT, Nitte

Mr. Santhosh S, Assistant Professor, Dept. of IS&E, NMAMIT, Nitte

Ms. Preethi Salian K, Assistant Professor, Dept. of IS&E, NMAMIT, Nitte



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