# Report on Online FDP on Cyber Security & Digital Forensics

CONSILIO Research Lab, Estonia, in collaboration with Jaypee University of Engineering and Technology, Guna, Madhya Pradesh organized an Online Faculty Developmental Programme (FDP) on Cyber Security & Digital Forensics, from December 12th to 16th, 2022. The objective of this FDP was to deliver basic cryptographic and cybersecurity techniques as well as to address the current cybersecurity issues and their possible solutions. It also covered hardware security concepts, machine learning-based cybersecurity solutions, ethical hacking tools, and Virtual private network (VPN) for secure tunneling. Moreover, this FDP focussed on one of the current emerging technology- Cybersecurity with blockchain.

The program was open to all the faculty members of AICTE-approved institutions, research scholars, PG scholars, government officers/personnel, bureaucrats, technicians, researchers, practitioners, and industry personnel. There were around 500 registrations and several participants attended the program every day.

The first day started with the welcoming of participants, followed by the introduction of the organizers, namely, CONSILIO Research Labs and Jaypee University of Engineering and Technology, Guna.
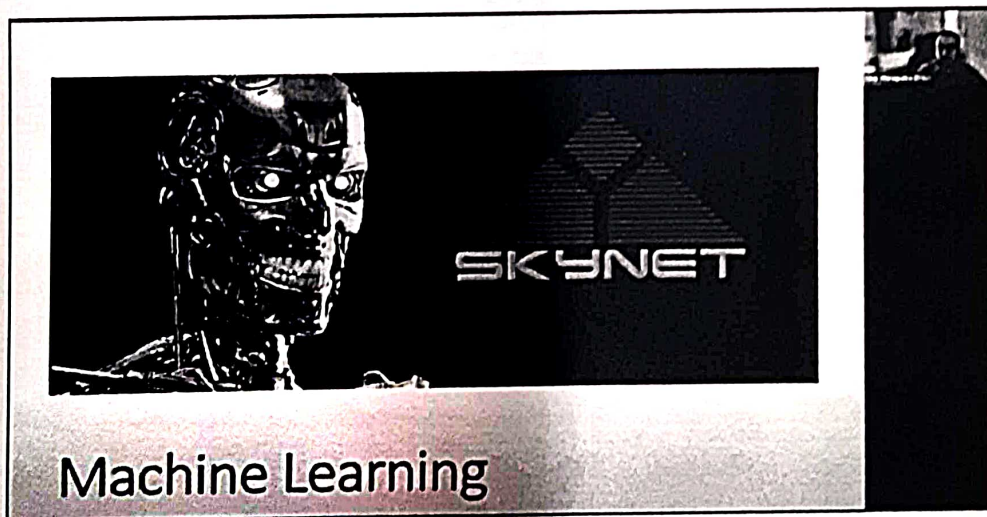
Figure 1. Prof. Nick explaining Machine Learning

On the first day, we had with us a distinguished speaker- Prof. Nikolaos (Nick) Pitropakis, who is working as an Associate Professor of Cyber Security at Edinburgh Napier University and has vast teaching and research experience. He spoke on the topic "Man versus The Machine: The Adversarial Era." For this title, Prof. Nick covered the following contents:

1. Machine Learning.
2. Thread landscape of the attacks on Machine Learning algorithms.
3. Performance impact of these attacks taking into consideration the use cases of IoT Intrusion Detection System and Malicious URL Detection.
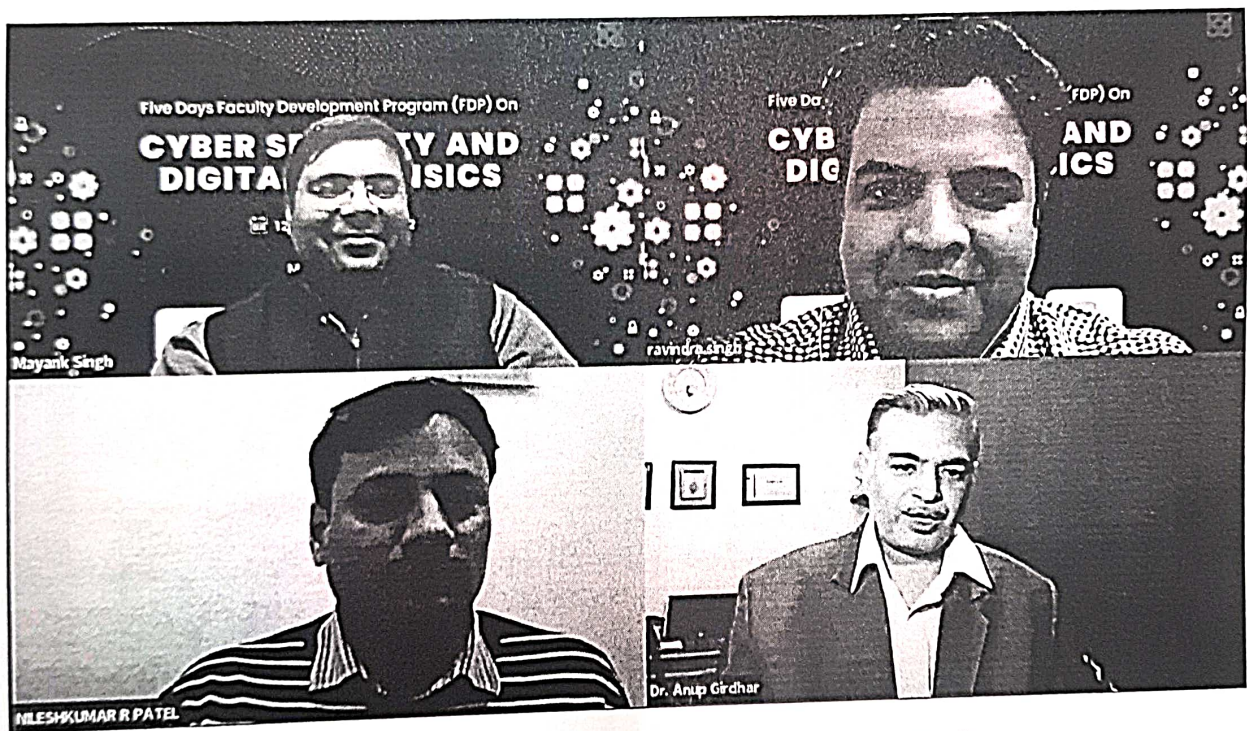

Figure 2. Interactive Session with Dr. Anup Girdhar

On the second day, we were accompanied by Dr. Anup Girdhar, CEO and founder of Sedulity Solutions & Technologies. He talked on the topic of "Cyber Security Awareness". He familiarised us with the risk of blindly adopting the IoT and VPN services and that more research is needed in these directions.

Dr. Anitha Chinnaswamy, Associate Director of Cyber Security Innovation Centre, Aston Business School, the United Kingdom, was our distinguished speaker on the third day. Her topic was "Cyber Security: Why it matters to you?". She covered Cyber security threats, including the

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well-known attack Wanna cry ransomware. She also talked about the ease of getting exploits from the Dark web.

Figure 3. Dr. Anita Chinnaswamy answering the questions from the participants

On the fourth day, we had with us Advocate Anuj Agarwal, Chairman of the Centre for Research on Cyber Crime and Cyber Law. He delivered valuable information on nearly all cybercrime domains, emphasizing data theft and its criticality, which leads to suffering in the form of various exploitations. He also acquainted us with several Cyber Laws in India.

Figure 4. Advocate Anuj Agarwal during the session

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On the fifth and concluding day, our distinguished speaker was Mr. Rodrigo Sozza, Cyber Security Manager in Nubank, São Paulo, Brazil. He talked at length on the topic "Towards Forensics Investigation." It was an informative session as Mr. Sozza explained the steps taken after a security breach. Most of the time, the documents are not admissible in court because of the lack of auditing controls or the lack of an appropriate recovery and reporting plan, or because the integrity of the evidence needs to be preserved. He emphasized the pointers on the criticality of these steps with the help of shared instances.

Figure 5. Mr. Rodrigo Sozza talking about Forensic investigations

At the end of the session on the fifth day, the vote of thanks was extended, and we conducted an online quiz based on the topics covered in the five sessions. Certificates were distributed based on the participants' performances on the quiz.

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