Centre for Land Warfare Studies (CLAWS)

Certificate Course on : AI in Military

Brief outline of the AI in Military Certificate Program

The AI in Military Certificate Program focuses on five main objectives. First, participants will understand the fundamental concepts of AI through real-world defence case studies. Second, they will explore different types of AI and their functionalities relevant to national security. Third, the program covers gaining basic knowledge of Machine Learning (ML) as a core concept of AI used in defence. Fourth, attendees will identify the benefits and potential risks of AI in defence applications. Lastly, the program addresses ethical considerations surrounding AI in warfare.

The objectives of the Workshop :

a) Understand the fundamental concepts of AI through real-world defence case studies.

b) Explore different types of AI and their functionalities relevant to national security.

c) Gain basic knowledge of Machine Learning (ML) as a core concept of AI used in defence.

d) Identify the benefits and potential risks of AI in defence applications.

e) Develop an understanding of the ethical considerations surrounding AI in warfare.

Timeline

• 10 Day workshop programme **22nd July 2024** to **2nd August 2024**

• Two Hour Session per day from **11:00hrs** to **13:00hrs & final assesment for certificatrion,**

Brief Bio-data of Instructors from Hacktify :

a.) Dr. Rohit Gautam has been working in cyber security for more than a decade and is serving as CISO at Hacktify Cyber Security. He has a PhD in Cyber Security and is the author of the book - "Ultimate Web Pentesting Guide" which is five star rated on amazon. He has also authored various best-selling courses in the field of cyber security on various platforms. He has actively found many zero days on various open source and commercial software's and his contributions has helped organizations patch critical vulnerabilities.He has been awarded as Cyber Security Samurai of the Year 2023 by Bsides Bangalore. He actively speaks at various conferences like VULNCon, California Summit, Bsdies Bangalore, OWASP Jaipur, Hakon etc. He was a mentor for CTF category for Indian Army Hackathon 2021. He has credentials like NCPT, NCBBR, NCFI and CCIO.

b.) Mr. Naman Malhotra - As a distinguished Cyber Security Consultant, Naman specializes in penetration testing and red teaming, with a keen focus on fortifying the cybersecurity landscape. He is recognized as one of the top 15 Hackers by the National Critical Information Infrastructure Protection Centre (NCIIPC) and has made significant contributions to the field by responsibly disclosing critical security vulnerabilities within the infrastructure of leading global corporations, including a subsidiary of Google. He holds certifications as listed below.

- MicrosoftCertifiedSolutionsAssociate(MCSA)
- MicrosoftCertifiedSystemsEngineer(MCSE)
- CertifiedNetworkDefender(CND)
- CertifiedEthicalHackerv10(CeHv10)
- INECertifiedCloudAssociate(ICCA)
- eLEARNSecurityWebApplicationPenetrationTester(eWPT)
- eLEARNSecurityWebApplicationPenetrationTesterExpert(eWPTx)
- CiscoCertifiedNetworkAssociate(CCNA)
- CiscoCertifiedNetworkProfessional(CCNP)
- HacktifyCertifiedRedTeamProfessional(HCRP)
- HacktifyCertifiedCyberSecurityProfessional(HCCP)

HACKTIFY
cybersecurity

ISO 9001 2015 CERTIFIED

Programme Schedule

S.No	Day	Session	Subsession
1.	Day 1 22nd July 2024 (1100hr – 1300hr)	The Power of AI in Defence (Case Studies 1: AI-powered Threat Detection and Identification)	• Explore how AI analyzes vast amounts of data (satellite imagery, sensor readings) to detect anomalies and identify potential threats. • Learn about different types of AI algorithms used for object recognition and anomaly detection. • Practical: Analyze simulated data sets to identify threats using a user-friendly platform.
2.	Day 2 23rd July 2024 (1100hr – 1300hr)	The Power of AI in Defence (Case Study 2: AI for Predictive Maintenance and Resource Optimization)	• Understand how AI predicts equipment failures and optimizes resource allocation in military operations. • Explore the role of AI in logistics and supply chain management for defence forces. • Discussion: Analyze the cost-saving benefits and potential risks of relying on AI for critical decision-making.
3.	Day 3 & 4 24th July 2024 25th July 2024 (1100hr – 1300hr)	Decoding Machine Learning for Defence Applications	• Introduction to Machine Learning: Supervised learning used to train AI models for specific tasks in defence (e.g., identifying enemy vehicles). • Understand how AI learns from data to improve its performance over time. • Explore the limitations of Machine Learning and the importance of data quality. • Lessons/case studies from the two ongoing conflicts in Europe

			& West Asia
			• Practical: Build a simple AI model using a user-friendly platform to classify military objects in simulated data (focus on the logic, not the code).
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4.	Day 5 & 6 26th July 2024 29th July 2024 (1100hr – 1300hr)	Unleashing the Power of Deep Learning in Defence	• Introduction to Deep Learning • Showcase real-world examples of Deep Learning in defence • Use Cases & AI Tools for kinetic employment of weapons /weapon systems • Use Cases & AI Tools for kinetic employment of weapons /weapon systems • Discussion: Compare and contrast the advantages and disadvantages of Machine Learning and Deep Learning for defense applications.
5.	Day 7 30th July 2024 (1100hr – 1300hr)	AI for Decision Support and Strategic Planning (Case study 3:AI-powered War Games and Scenario Simulation)	• Explore how AI is used to simulate war games and predict potential outcomes of military strategies. • Discuss the ethical implications of using AI for wargaming and potential biases in data sets.
		AI for Decision Support and Strategic Planning (Case study 4: AI for Cyber Threat Detection and Response)	• Understand how AI analyzes network traffic and identifies cyberattacks in real-time. • Learn about the role of AI in developing self-learning cyber defense systems • Group Discussion: Debate the

			potential for autonomous AI weapons systems and the importance of international regulations.
6.	Day 8 31st July 2024 (1100hr – 1300hr)	AI for Decision Support and Strategic Planning (Case study 5: Need for AI Infrastructure in the country)	• Introduction to the concept of Cybersecurity in AI systems used for defense. • Identify potential vulnerabilities in AI for defense: adversarial attacks, data manipulation, etc. • Importance of data security and responsible development of AI for national security.
7.	Day 9 1st August 2024 (1100hr – 1300hr)	Cybersecurity and AI in Defense	• Introduction to the concept of Cybersecurity in AI systems used for defense. • Identify potential vulnerabilities in AI for defense: adversarial attacks, data manipulation, etc. • Importance of data security and responsible development of AI for national security. • Brief on: Lavender, Gospel & Wisdom
8.	Day 10 2nd August 2024 (1100hr – 1300hr)	The Future of AI in Defense	• Emerging trends in AI research and development for defense applications (e.g., AI-powered command and control systems). • The impact of AI on the future of warfare and international security. • Discussion: Explore responsible AI development practices and international collaboration to mitigate risks.
9.	Day 10 2nd August 2024	Viva & MCQ Examination for Certification	