



Executive PG Certificate in AI-Enabled Cybersecurity

An Executive PG Certificate Program by
Indian Institute of Technology, Kharagpur



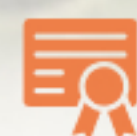
NIRF Rank #6 Overall | India's First IIT



**Executive Alumni
Status**



**Cohort 1 - September 2026
(Tentative)**



**IIT Kharagpur
Executive Certificate**

DURATION
8 MONTHS • 140+ HRS

100%
LIVE ONLINE

WEEKEND
CLASSES

CEH V13 AI EXAM
VOUCHER INCLUDED

ADMISSIONS & INDUSTRY PARTNER:

 **Futureense.uni**

Contents Overview

What's Inside

- 01 The Challenge
- 02 Why Choose IIT Kharagpur?
- 03 Overview
- 04 Meet the Faculty
- 05 Program Overview
- 06 Program Snapshot
- 07 Pathway to Learning
- 08 Course Structure
- 09 Skills Acquired
- 10 Tools, Labs, and AI Clinic
- 11 Capstone and Portfolio Projects
- 12 Certification Details
- 13 Career Prospects
- 14 Job Support Services
- 15 Advisory Board Members
- 16 Admissions Criteria
- 17 Tuition Fees



Everyone Is Shipping Software.

Almost Nobody Is Securing It.

AI made attacks faster - the talent gap made them easier.

More code, more exposed APIs, more cloud to misconfigure, more people using AI tools without understanding the risk.



Every one of those is an attack surface.

1M

1M professionals India needs, against roughly **80,000 qualified experts today.**



Top 2

Top 2 India is now the second most targeted nation for cyberattacks. **CERT-In handled 29.4 lakh incidents in 2025, up from 13.9 lakh in 2022.**



2025

2025 DPDP Rules notified. **A Data Protection Officer is now mandatory for Significant Data Fiduciaries.**



This curriculum is built backwards from what **2026** job descriptions actually ask for.

About IIT Kharagpur

IIT Kharagpur is where the IIT system began. Founded in 1951, it became the founding institute of a network that reshaped Indian engineering and produced leaders across technology, research, and industry worldwide. Its CSE department works at the frontier of cryptography, security, forensics, and AI. That is the depth behind this credential.

When the certificate carries this name, it carries seven decades of engineering credibility.

Established - 1951

India's first IIT

NIRF Ranking - 6

Overall (2026)

Alumni Network

60,000+ globally

Campus- 2,100 acres
in West Bengal

Faculty - 290+
across departments



The name on the certificate is the whole point.

The institution that helped build computer science in India now puts its name on your cybersecurity credential.

The core is carried by IIT Kharagpur CSE faculty, researchers in cryptography, security, forensics, and adversarial AI. Practitioners who have run security at scale teach the applied layer.

You walk away holding:

**An IIT Kharagpur
Executive PG Certificate**

**An EC-Council CEH v13
Exam Voucher, included**

**Executive
Alumni Status**



**NIRF Rank #6 Overall
| India's First IIT**



Researchers Who Built It. Operators Who Ran It.

IIT Kharagpur CSE faculty carry the core across every module.

IIT Kharagpur - CSE faculty



Prof. Rajat S. Chakraborty

Programme Director, CSE, IIT Kharagpur.

Curriculum design, cryptography, SOC, DFIR, and incident response.



Prof. Indranil Sengupta

CSE, IIT Kharagpur.

Ethical hacking and penetration testing.



Prof. Jibesh Patra

CSE, IIT Kharagpur

DevSecOps, identity, and access management.



Prof. Mainack Mondal

CSE, IIT Kharagpur

AI systems, security, and adversarial models



Built backwards from the job description

One program. The whole security stack. AI woven in where it matters.



Breadth before specialization.

You get the full stack first, then specialize.



AI as a security layer, not decoration.

A productivity layer for security work, and a risk area in its own right.



Every module maps to a real role.

From SOC Analyst to Cloud Security Engineer to AI Security Analyst to Security Architect.



You leave with a portfolio.

12 projects, 30+ case studies, 30+ tools, one capstone.

What this is not.

Not a pure-AI course. Not a job guarantee. We help you present credible capability, not inflated claims.

The Program at A Glance

 Program	Executive PG Certificate in AI-Enabled Cybersecurity
 Duration	8 months · 140+ hours
 Format	Live online weekend classes - faculty-led concepts, practitioner-led applied sessions, guided projects, case studies, capstone
 Fee	₹1,40,000 + GST (EMI options available)
 Credential	IIT Kharagpur's Executive PG Certificate
 Included	CEH v13 AI exam voucher (including i-Labs, learning materials & included AI topics) · AI Clinic project sprints · self-paced bridge course
 Alumni	Executive Alumni Status eligibility, as per applicable IIT Kharagpur norms
 Practice Layer	12 real-world projects 30+ case studies 30+ cybersecurity and AI-security tools

INDIAN INSTITUTE OF TECHNOLOGY



COHORT - 1

Begins September, 2026
(Tentative)

One Bridge, Ten Modules, One Proving Ground

Co-taught across all modules by IIT Kharagpur CSE faculty and industry practitioners; 140+ hours, online, on weekends.

INCLUDED FREE

Maths Refresher

Programming Foundations

GenAI, Agentic AI and Prompt Engineering

Networking & Security Fundamentals

Bridge course
(self-paced foundation)

Core Modules

M1	Cryptography & Fundamentals	Symmetric & Asymmetric Encryption, Security Principles
M2	SOC Operations & Detection Engineering	SIEM pipelines, detection rules, MITRE ATT&CK mapping
M3	Ethical Hacking & Penetration Testing	Red-Teaming Workshops (using Tryhackme)
M4	Cloud Security (AWS / Azure / GCP)	Kubernetes hardening, network misconfiguration
M5	DevSecOps & Secure Software	Security Gates, Remediation Workflows, Audit logs
M6	IAM, PAM & Zero Trust	CISSP Workshops
M7	Malware Analysis & Digital Forensics	Red-Teaming Workshops (using Tryhackme)
M8	Incident Response & Threat Intelligence	Threat hunting, threat-intel lifecycle, CERT-In reporting
M9	AI Systems Security & Adversarial Models	Vibe-Coding for Cybersecurity Workshops
M10	AI Forensics & Governance	Model behavior investigation, governance controls

Capstone

Team-based end-to-end projects, hybrid-cloud breach simulation

Every Layer of the Fight, Module by Module

Curriculum Deep Dive

Foundations → Detection → Offense

Bridge Course - Self-Paced Foundation

What you'll learn

Networking fundamentals, the Linux command line, security basics, packet analysis, basic scripting, and using AI as a productivity tool for security work.

Key tools & framework

Linux CLI, Kali, Wireshark, VirtualBox, Python basics.

Module - 1 Cryptography & Fundamentals

What you'll learn

The vocabulary every role is built on: CIA triad, security principles, symmetric and asymmetric encryption, hashing and signatures, TLS, certificates, PKI, and key management.

Key tools & framework

AES, RSA, TLS, PKI, hashing, OpenSSL

Module - 2 SOC Operations & Detection Engineering

What you'll learn

How a SOC actually runs across L1-L3: log collection and normalization, SIEM pipelines, alert triage, false-positive reduction, detection rules, MITRE ATT&CK mapping, and AI-assisted analysis.

Key tools & framework

Splunk, ELK, SPL, SIGMA, YARA, MITRE ATT&CK

Module - 3 Ethical Hacking & Penetration Testing

What you'll learn

The attacker's workflow, responsibly: reconnaissance, OSINT, scanning and enumeration, vulnerability assessment, OWASP Top 10, web and API exploitation, exploit validation, pentest reporting.

Core tools & methodologies

Nmap, Metasploit, Burp Suite, OWASP ZAP, Nikto, Gobuster

The Stack Keeps Building

Cloud → Pipeline → Identity → Forensics

Module - 4 Cloud Security (AWS / Azure / GCP)

What you'll learn

Cloud IAM and the shared-responsibility model, audit logs, native security services, storage and network misconfiguration, posture management, container security, and Kubernetes hardening.

Key tools & framework

CloudTrail, GuardDuty, Security Hub, Prowler, Docker, K8s, Trivy

Module - 5 DevSecOps & Secure Software

What you'll learn

Security inside the pipeline: secure SDLC, threat modeling, SAST/DAST/SCA, dependency and secrets scanning, CI/CD security gates, image scanning, and remediation workflows.

Key tools & framework

Semgrep, SonarQube, Snyk, Trivy, GitHub Actions, Gitleaks

Module - 6 IAM, PAM & Zero Trust

What you'll learn

Identity as a control layer: IAM and PAM, SSO, MFA, OAuth / SAML / OIDC, conditional access, access reviews, identity governance, and Zero Trust principles.

Core tools & methodologies

Microsoft Entra, Okta, Keycloak, OAuth 2.0, SAML

Module - 7 Malware Analysis & Digital Forensics

What you'll learn

The investigative side: static and behavioural malware analysis, sandboxing, disk, memory, and network forensics, evidence handling, timeline reconstruction, and IOC reporting.

Core tools & methodologies

YARA, Cuckoo, ANY.RUN, Autopsy, FTK Imager, Volatility 3, Zeek

From Response to AI Defence

Incident Response → AI Security → Governance → Capstone

Module - 8 Incident Response & Threat Intelligence

What you'll learn

Responding when it goes wrong: the NIST IR lifecycle, ransomware and BEC response, the threat-intel lifecycle, threat hunting, CERT-In reporting context, and executive communication.

Key tools & framework

NIST SP 800-61, MITRE ATT&CK, MISP, TheHive

Module - 9 AI Systems Security & Adversarial Models

What you'll learn

AI as attack surface: adversarial ML, data poisoning, prompt injection, jailbreaks, insecure LLM tool use, RAG risks, model extraction, and the governing frameworks.

Key tools & framework

OWASP LLM Top 10, MITRE ATLAS, NIST AI RMF

Module - 10 AI Forensics & Governance

What you'll learn

Investigating and governing AI systems: AI incident analysis, model behaviour investigation, audit logs, bias and misuse detection, governance controls, and risk registers.

Core tools & methodologies

NIST AI RMF, ISO/IEC 42001, model audit trails

Capstone Project - Team-Based End-To-End Hybrid-Cloud Breach Simulation

A multi-stage attack on a hybrid-cloud, fintech-style environment. Red team, blue team, GRC, cloud and IAM review, threat-intel mapping, AI-risk assessment, then a leadership brief. You finish with a full breach report, technical appendix, and executive presentation.

The Conceptual Mastery You Leave With

01



Strong hold on Cybersecurity Fundamentals

- Operating systems and the Linux CLI
- Networking (TCP/IP, DNS, ARP)
- Packet analysis
- The CIA triad
- Symmetric and asymmetric cryptography
- Hashing, TLS, certificates, PKI, and key management.

Security Operations & Defense Exposure

- SIEM pipelines and log analysis
- Detection engineering (SIGMA, YARA)
- MITRE ATT&CK mapping, alert triage and false-positive reduction
- Blue-team operations and AI-assisted analysis.



02

03



Offensive Security & Hands-on Ethical Hacking

- Reconnaissance and OSINT,
- Scanning and enumeration,
- Vulnerability assessment and penetration testing
- OWASP Top 10, web and API exploitation
- CEH-aligned red-teaming and pentest reporting.

Cloud, DevSecOps & identity

- Cloud IAM and posture management
- Container and Kubernetes security
- SAST/DAST/SCA and CI/CD security gates
- secrets management,
- SSO, MFA, PAM, OAuth/SAML, and Zero Trust.



04

05



Malware, forensics & incident response

- Static and behavioural malware analysis
- Disk/memory/network forensics
- Evidence handling and timeline reconstruction
- The NIST IR lifecycle
- Threat hunting and threat intelligence, CERT-In reporting.

Offensive Security & Hands-on Ethical Hacking

- Automating blue-team operations, AI-augmented red teaming,
- Adversarial ML and prompt injection, AI governance, audit, and risk.
- AI/ML fundamentals and ethics
- AI-driven threat detection and anomaly analysis



06

— The Tech Stack You Get to See —

Core security & networking →



WIRESHARK



netcat

OpenSSL

TCPDUMP

→ Burp Suite



metasploit



Gobuster



← Web, API & pentest

SOC, detection & threat intel →

splunk



SIGMA



ATT&CK



TheHive

VIRUSTOTAL

ANY RUN

cuckoo



FTK Imager

Volatility3



← Malware & forensics

Cloud, DevSecOps & containers →

AWS IAM



Prowler



gitLeaks



TOP10



AI risk-register templates

prompt-injection testing

← IAM, AI security & governance

AI Clinic

Sprint-based projects built on the same tools enterprises run, on your own machine, not a hosted lab you log into. Guided sprints, small-group support, real systems.



Disclaimer: All tools are indicative & maybe involved in several capacities during the program

What You Can Do the Day You Finish

On completing the program, you will be able to

- ▶ Apply core cybersecurity principles across operating systems, networking, and cryptographic protocols.
- ▶ Run SOC workflows end to end - build and tune SIEM detections, triage alerts, and map adversary behaviour to MITRE ATT&CK.
- ▶ Conduct ethical hacking and vulnerability assessments, and write client-grade penetration-test reports.
- ▶ Secure cloud estates and software pipelines - audit IAM and posture, harden containers, and embed security gates in CI/CD.
- ▶ Investigate and respond to incidents using malware analysis, digital forensics, the NIST IR lifecycle, and threat intelligence.
- ▶ Secure and govern AI systems - test for adversarial ML and prompt injection, and build AI risk registers aligned to recognised frameworks.
- ▶ Deliver a team-built, job-ready capstone that demonstrates integrated cybersecurity and AI-security capability.



Case Studies



* Actual company data, sensitive IP, and names may be redacted.

** The companies are representative of their domains.

Note: All product and company names are trademarks or registered trademarks of their respective holders. Their use does not imply any affiliation with or endorsement by them.

Signed by IIT Kharagpur + EC-Council

This certification program equips you with the knowledge and skills to become a successful cybersecurity professional.

Program Completion Certificate

- IIT Kharagpur Executive **PG Certificate in AI-Enabled Cybersecurity**.
- Live session by IIT Kharagpur Faculty & Masterclass by Industry Experts.
- IIT Kharagpur's Executive Alumni Status as per norms & program policy.

Partnership with EC-Council

- Receive an EC-Council CEH v13 certification by clearing the exam
- Get access to official EC-Council courseware, hands-on labs
- CEH v13 Exam Voucher Included



Career Outcomes

The Roles the Market Can't Fill, and What They Pay



LEVEL	CAREER STAGE	SALARY (ANNUAL)	KEY ROLES/TRACKS
 Fresher (0-2 Years)	Entry Level / Graduate Placement	₹8.0 Lakhs – ₹14.0 Lakhs	Associate Security Engineer, Vulnerability Analyst, SOC Analyst L1
 Early Mid-Level (3-5 Years)	Individual Contributor	₹14.0 Lakhs – ₹22.0 Lakhs	Penetration Tester, Cloud Security Specialist, AppSec Engineer
 Senior Level (6-10 Years)	Team Lead / Subject Expert	₹22.0 Lakhs – ₹40.0 Lakhs	Lead Ethical Hacker, Security Architect, IAM Specialist
 Leadership 10+ Years	Enterprise Strategic Executive	₹40.0 Lakhs – ₹1.0 Crore+	CISO, Director Of Information Security, VP Of Cyber Risk

Note: Ranges Reflect 2026 India Hiring Data And Frame Ambition, Not A Promise. Where You Land Depends On Background, Effort, Project Quality, And Interview Readiness. Product Companies Typically Pay More Than Services.

Career Assistance by Futureense

Every learner gets personalized support to transition confidently into AI-powered leadership roles. The main focus is to help the candidates position themselves, prepare, and perform in the next phase of their careers

01



Personal Career Mapping

Customized career plans based on your background and specialization.

02



Resume & LinkedIn Optimization

Strengthen your professional identity with expert-led profile enhancements.

03



Portfolio & Personal Branding Support

Build a compelling portfolio aligned to your target roles.

04



Industry Workshops & Webinars

Learn directly from industry leaders and domain experts.

05



Mock Interviews & Expert Feedback

Practice real interviews and receive actionable improvement guidance.

The Practitioners in the Room

INDUSTRY PRACTITIONERS



Suchit Bhatwadekar
Founder, AIFirstEd

Former CTO, Hexaware. Cloud, SOC, DevSecOps, and AI-driven secure enterprise architecture.



Mr. Soumya Naman Srivastava
Cyber Security Lead at Pert Telecom Solutions

Cyber Security Leader, Speaker, Consultant, and Trainer with experience in Cyber Security, AI Security, DevSecOps, Cloud Security, Digital Forensics, and Vulnerability Assessment.



Mr. Vinay Gupta
Former Tech Manager for EC-Council's global Cyber Games and Capture-the-Flag (CTF) initiatives

Cyber Security Leader and former CISO with over a decade in security and risk management.

MASTERCLASS & LEADERSHIP SPEAKERS



Vijay Kumar
Founder & CEO, DigiFortex

Cyber resilience, data privacy, compliance, AI/LLM security, and governance.



Philip Varughese
President & Global Head, Strategic Growth, Cyfirma

Threat intelligence, cyber risk, analytics, and strategic cyber defence.



Suroop Mohan Chandran
Product Management, SonicWall

SOC platforms, MDR, endpoint security, and AI-driven managed security operations.



Anand V
Board, EC-Council

Cybersecurity leadership, the certification ecosystem, and industry readiness.

Futureense Leadership Council

Co-architects, Professors of Practice, and Mentors of the Program



Anand Das

TVS Motors
Chief Digital & AI Officer



Ankit Mogra

Ather Energy
Director - Insights & Analytics



Muthumari S

Brillio
Global Head of Data & AI Studio



Shrirsha Ray

Thomson Reuters
Director of Engineering



Ishu Jain

Myntra
Head of Central Analytics



Pankaj Rai

Aditya Birla Management Corp
Group Chief Data & Analytics Officer



Madhu Hosadurga

Schneider Electric
Global VP, Enterprise AI



Nithya Subramanian

Best Buy
Sr Director Data & AI COE



Swati Jain

Deloitte
Partner, Digital AI & Analytics



Srini Oduru

Kearney
Head of IT Delivery & Operations



Anirban Nandi

Albertsons Companies India
Vice President, AI and Data



Indrani Goswami

Nykaa
Associate Director

Futureense Leadership Council

Co-architects, Professors of Practice, and Mentors of the Program



Vishal Nagpal

Best Buy
Director of Data & AI



Krithika Muthukrishnan

Scripbox
Chief Data Science Officer



Tushar Sahu

Google
Director Engineering



Sumon Maal

SonyLiv
Director Engineering



Ruchika Singh

Spotify
Director, Data Science & Insights



Nishant Chandra

Microsoft
Industry Copilot Leader & Head



Vidhi Chugh

All About Scale
Head of AI



Ashish Kulkarni

Kritrum
Director Applied AI



Gaurav Srivastava

Amazon
Analytics Business Intelligence



Arpit Agarwal

Google
Data Science Manager



Ashutosh Shinde

PayU
Director, Software Engineering



Biju Kallepilli

SAP Labs
Industry Copilot Head

• Eligibility & Application Process •

Who Gets In, and How

Who can Apply? —————



Working professionals from **IT, software, cloud, infrastructure, operations, QA, audit, and risk backgrounds**. No prior security role required, the bridge course levels the room. **Minimum 50% marks or equivalent CGPA in UG is required.**



Best suited to 2-8 Years experience. Comfort with a **command line** and a **build-and-break mindset** matters more than a specific degree.

Selection is by application review.

Not for you if —————

- You want a guaranteed job.
- You're after deep AI/ML engineering rather than security.
- You want a single-vendor certificate in six weeks.

• FROM APPLICATION TO COHORT •



Submit
your application



Clear
the qualifying test



Receive your offer letter
from IIT Kharagpur



Pay and confirm
your seat



Live cohort
Begins

FEES STRUCTURE



Program Fee

INR ₹1,40,000 + 18% GST



Application Fee

A non-refundable initial deposit of INR 5,000/- must be paid at the time of application submission, which will be adjusted against the total program fee.

INR ₹5,000/-



Bridge Course

Worth ₹29,000

Included FREE

TOTAL PROGRAM FEES

₹1,65,200

(including 18% GST)

WHAT'S INCLUDED

- 140+ hrs of collective teaching offered by IIT Faculties and Industry Experts
- All course materials, recorded sessions, and resources
- Bridge Course (worth ₹29,000), included free
- Capstone evaluation by IIT faculty + industry jury

- Executive PG Certificate from IIT Kharagpur
- Executive Alumni Status and lifetime alumni network
- Hands-on access to a virtual cyber range
- One industry certification exam voucher
- Career support: resume guidance, job listings, interview prep

WHAT'S NOT INCLUDED

- Other paid certifications beyond the included exam voucher
- Paid tool, cloud, or SIEM subscriptions (free tiers, demos, and credits provided)

PAYMENT OPTIONS



- No-Cost EMI Available: Learners opting for an education loan can avail of No-Cost EMI for loan tenures up to 6 months, subject to applicable terms and approval.
- Scholarship for Upfront Payment: Learners choosing to make the full program fee payment upfront are eligible for a scholarship of up to INR 6,000 on the total program fee (inclusive of GST) of **INR 1,65,200**.

Note: Any scholarships, discounts, or financial assistance, if applicable, will be offered at the sole discretion of the institute and subject to eligibility criteria.

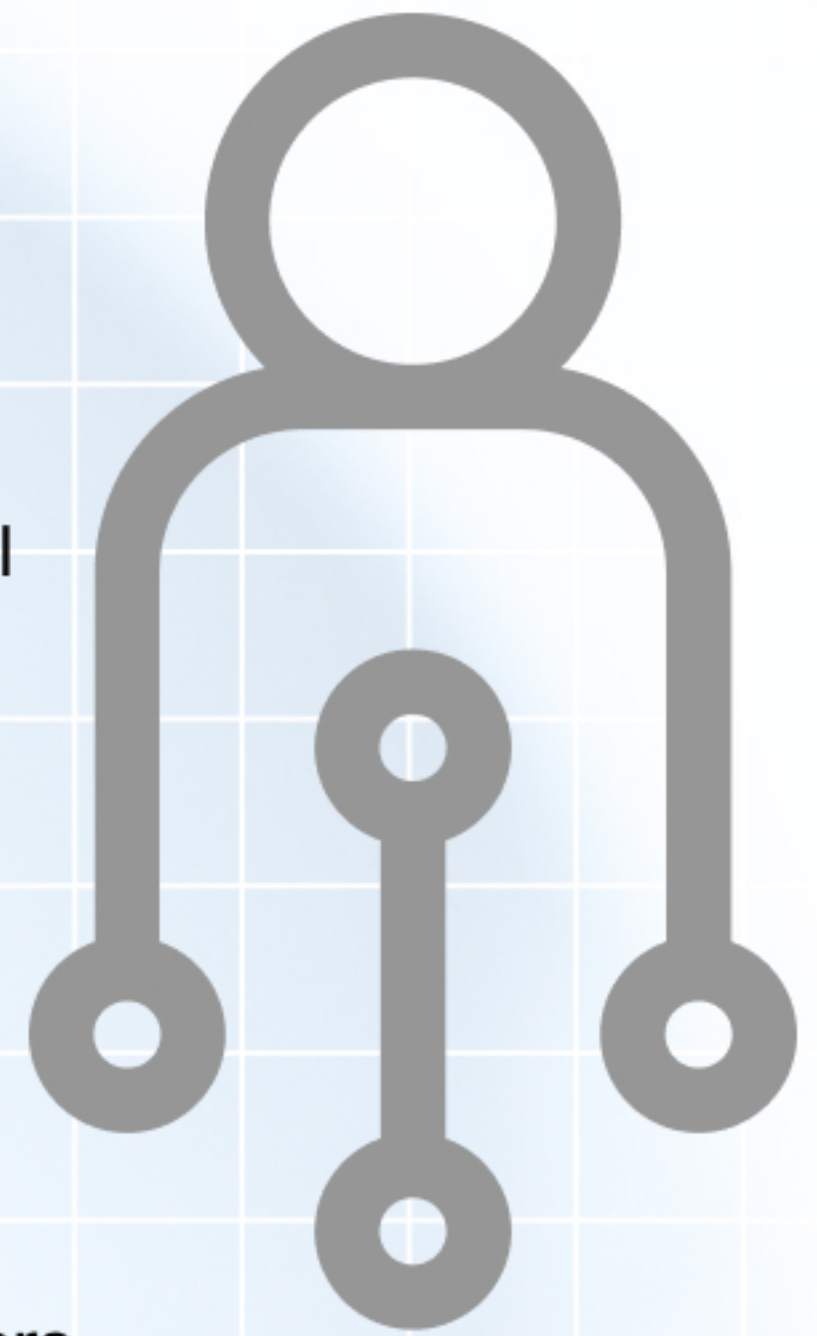
About Futureense

Futureense is India's largest AI-focused skilling and talent company. It exists to solve one problem: the gap between the AI talent India produces and the AI talent the world needs.

Futureense is the Industry and Admissions Partner for this program. Everything beyond the classroom: industry mentors, placement engine, campus operations, career support.

The IIT brings academic depth.

Futureense brings the machinery that turns that depth into careers.



Impact & Ecosystem

3M+

LEARNER
COMMUNITY

70+

UNIVERSITY
COLLABORATIONS

10+

IIT/IIM
PARTNERSHIPS

540+

TRUSTED HIRING
PARTNERS

25K+

CAREERS
TRANSFORMED

100+

MENTORS &
EXPERTS

400+

FUTURENSE TEAM
STRENGTH

65+

ENTERPRISE CLIENTS
ACROSS FORTUNE
500 AND GCCS



Indian Institute of
Technology, Kharagpur

• TALK TO A PROGRAM ADVISOR •

Development is being automated. Security is being augmented.

Build the breadth to enter the field. Build the judgment to grow in it.



Start Your
Application Now



Follow Us On
Instagram



8 months · 140+ hours

Live online, weekends



CEH v13 AI exam voucher included

₹1,40,000 + GST (EMI options available)



Cohort 1

September, 2026 (Tentative)

We sell readiness, not placement.



Contact Details



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