International Institute of Information Technology Bangalore

ज्ञानमुत्तमम्

Executive Post Graduate Certificate

Forward Deployed AI Engineering

For Engineers Ready to Own the Full AI Deployment Journey

Build AI.
Deploy Enterprise Systems.
Own the Outcome.

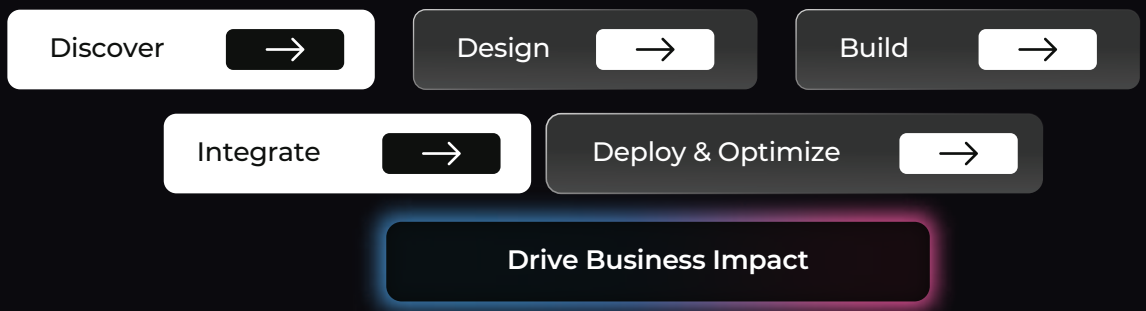


powered by upGrad

Model → Enterprise Infrastructure → Business Outcome

AI has engineers who build models. Enterprises need engineers who make them work.

A Forward Deployed Engineer owns the end-to-end implementation of AI solutions for enterprise customers - from understanding the business problem to deploying and scaling the solution in production.

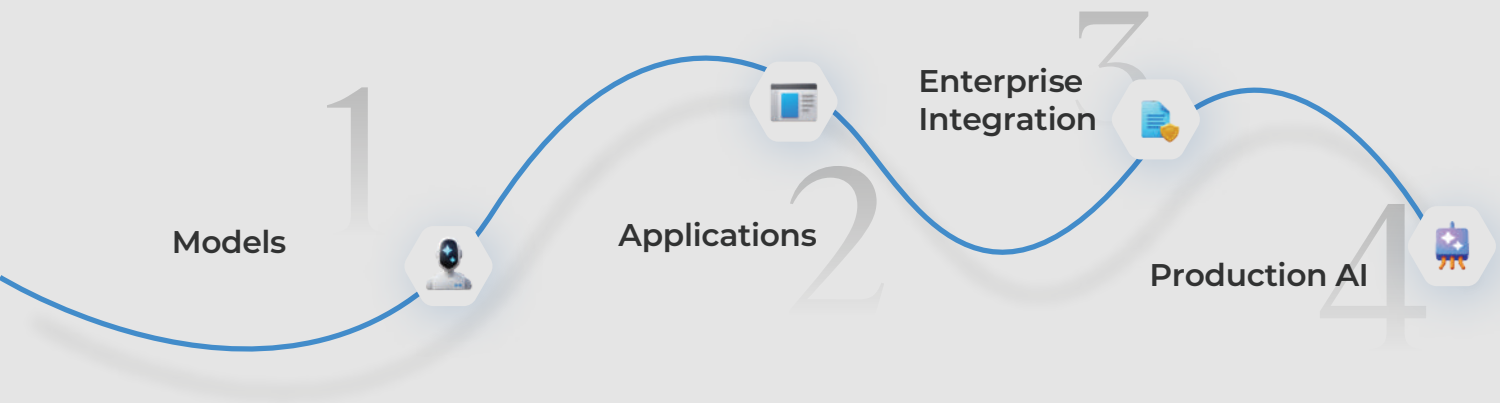


NOT A SOFTWARE ENGINEER. NOT AN AI ENGINEER. NOT A SOLUTION ARCHITECT.

	Software Engineer	AI / ML Engineer	Solution Architect	FDE
Primary Goal	Ship product features	Build models & pipelines	Design scalable architecture	**Deploy AI at the client site, drive adoption**
Client Interaction	Rare or none	Rare	Pre-sales only, hands off	**Daily - direct with business & technical leaders**
Deploys To Production	Internal only	Internal only	No - hands off	**Yes - end-to-end at the client site**

FDEs don't stop at building AI. They own whether it actually works for the customer.

Enterprise AI has moved from experimentation to deployment.



Most AI pilots stall at the boundary between "it works in the demo" and "it works inside the client's actual systems." That boundary is now a full-time engineering discipline - and enterprises are hiring for it.

800%
India FDE demand growth Q1–Q3 2025

Premium Salary
Compensation premium vs. comparable SWE

$3.5 Bn
Enterprise software investment signal



Who is Hiring This Talent

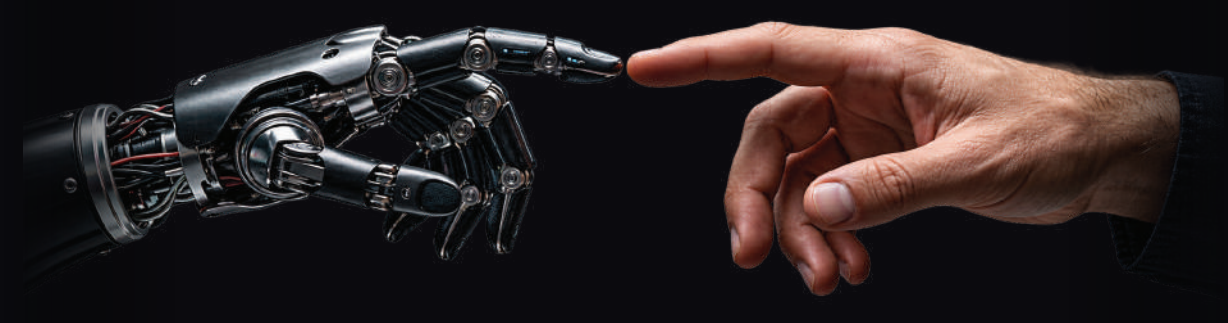
Frontier AI · Cloud & Data · Enterprise AI · Consulting · AI-native Startups - illustrative categories, hiring for roles that appear in the market as Forward Deployed Engineer, Forward Deployed AI Engineer, AI Solutions Engineer, AI Customer Engineer, and Applied AI Engineer.

A scarce skill, priced like one.

Job postings for forward-deployed engineers rose more than 800% between January and September 2025, per Financial Times reporting - one of the fastest-growing job categories in technology. Compensation has moved with it.

INDICATIVE COMPENSATION BANDS BY ROLE – INDIA & GLOBAL

Role	India (CTC per annum)	Global (USD)
Forward Deployed Engineer	₹45L – ₹1.8Cr+	$220K – $380K
Senior Forward Deployed Engineer	₹60L – ₹2Cr+	$350K – $600K+
Applied AI Engineer (Production)	₹20L – ₹70L	$180K – $320K
AI Solutions Engineer / GenAI Architect	₹35L – ₹1.2Cr+	$250K – $450K+
AI Systems Lead / Staff Engineer	₹80L – ₹2.5Cr+	$450K – $750K+



Indicative market ranges, and cross-referenced against Financial Times / Indeed / LinkedIn hiring data. Actual compensation varies by experience, company, and geography.

A new career path for experienced engineers.

Software Engineer

AI / ML Engineer

Solutions Engineer

Solution Architect



FDE

SENIOR FDE

SOLUTIONS / DEPLOYMENT LEAD

AI SOLUTIONS LEADERSHIP

> From building components to owning outcomes.

WHAT CHANGES ON THE WAY UP

🔑

Ownership

From shipping a feature to owning whether the client's outcome is real.

📘

Vocabulary

From technical language alone to technical depth paired with business framing.

👁️

Visibility

From working in a sprint queue to working daily with client decision makers.

Built where technology, AI, and industry converge.



01 Depth in AI & Computer Science

Dedicated expertise across AI, Data Science, Computer Science and Software Engineering, backed by specialised departments, centres and labs.

02 Technology-first institution

Established in 1998 with a singular focus on IT education, research, entrepreneurship and innovation.

03 Research expertise

Research spanning Machine Intelligence, Robotics, Data Science & AI, Multimodal Perception and Software

04 Legacy in AI & ML Executive Education

A decade-plus legacy of building AI talent through executive education in Data Science, Machine Learning and Artificial Intelligence.

05 Strong industry engagement

A long-standing ecosystem of industry partnerships across research, innovation and technology.

06 Bengaluru technology ecosystem

Located in Electronics City, Bengaluru - at the heart of India's technology ecosystem.

The model is only the beginning.

CONVENTIONAL AI PROGRAMME

Model → Train → Evaluate → Project

FORWARD DEPLOYED AI ENGINEERING

Client Problem → Architect → Build → Integrate → Deploy → Evaluate → Operate → **Business Impact**



The Programme, at a Glance.

~120
learning Hours

6
Months

24
Weeks

1
Live Capstone

5
Project deliverables

1
Campus Immersion

IIIT-B
Alumni status

Online

Online - Live, Recorded, hands-on labs, Campus Immersion

IIIT-B

Credential, awarded on completion

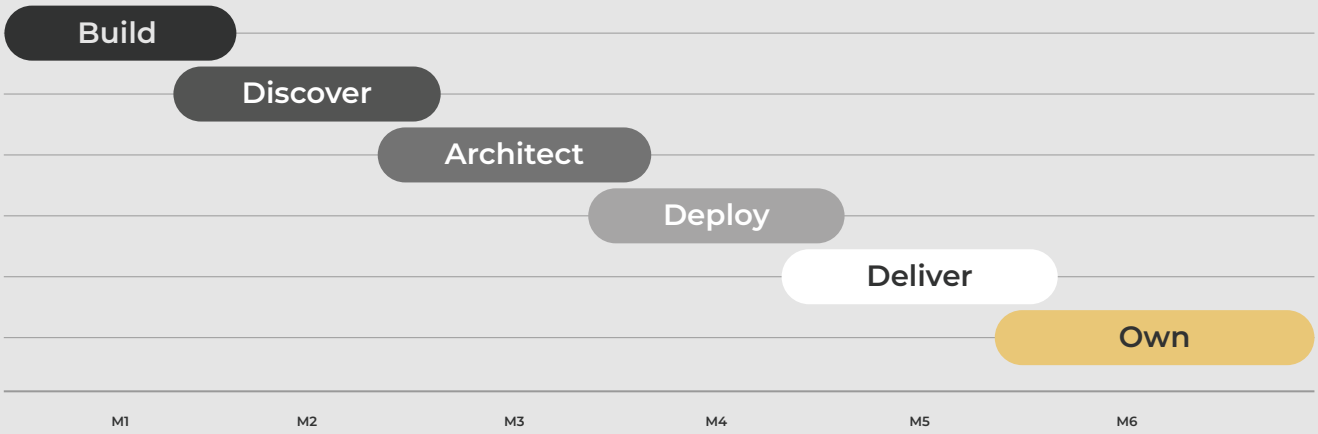


Program Completion Certificate



Earn valuable credentials with from an institute accredited with NAAC A+ (2021).

From engineer to Forward Deployed Engineer.



The curriculum builds the AI and production core first, then moves into client discovery, enterprise deployment, and delivery - because an engineer can't scope an AI solution well until they know what the technology can and cannot do.

FIVE COURSES + CAPSTONE, 24 WEEKS

Wk 1-3	Production Engineering Foundations
Wk 4-9	The AI Build Core - RAG, Agents, Evaluation
Wk 10-13	Client Discovery & Solution Architecture
Wk 14-19	Enterprise Deployment, Security & Regulated-Industry Operations
Wk 20-23	Solution Demonstration, Adoption & Client Delivery
Wk 24 - 25	Capstone and 1-day IIIT-B campus immersion

MODULE 01 · WEEKS 1-3 · 15 HOURS · FOUNDATIONS

Course: Production Engineering Foundations

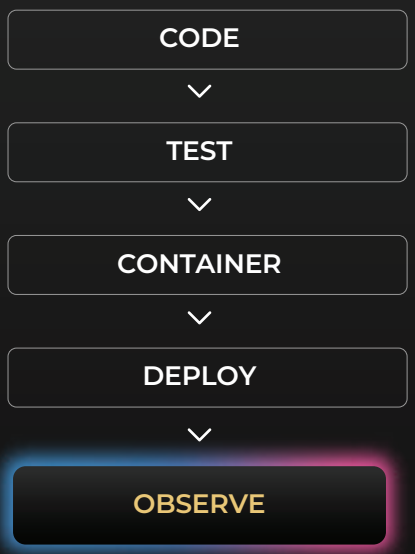
From code-first to client-first.

> Your PM asks for an AI feature. You call an API. It works in Postman, fails silently in front of the client, and there is no log to explain why.

Wk 01 The FDE mandate, the client-first mindset, and the 90-second explain

Wk 02 Production Python - async patterns, FastAPI, Pydantic, secrets, retries, structured logging

Wk 03 Testing, continuous integration, Docker, and observability instrumentation



Production Python | Fastapi + Pydantic | Docker | CI/CD | Observability

MODULE OUTCOME

Build software that survives real customer environments

Readable, production-grade Python with error handling, retries, and graceful degradation - instrumented, tested, and containerised for deployment.

MODULE 02 · WEEKS 4-9 · 25 HOURS · SPRINT 1

Course: The AI Build Core - RAG, agents, evaluation

Build the intelligence enterprises actually deploy.

The RAG demo impressed everyone in the room. On production data, faithfulness drops to 40% - and nobody measured it, so nobody knows why.

Structure

Engineering

Wk 04 The production LLM stack - context windows, model routing across Claude/ Gemini/open-weight, cost & latency tradeoffs

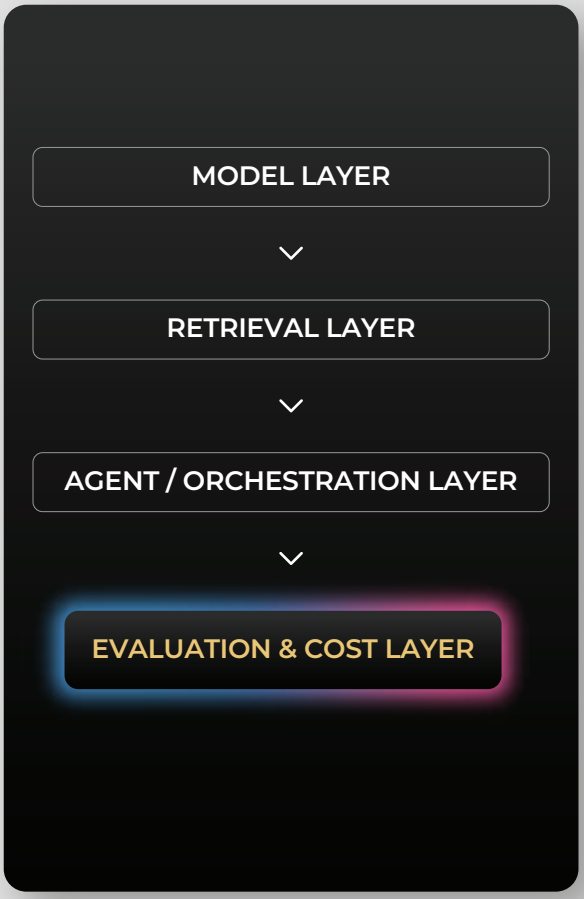
Wk 05 Retrieval-augmented generation - the prompt vs. retrieve vs. fine-tune decision, embeddings, chunking, reranking

Wk 06 Agentic systems and orchestration - graph-based execution, human-in-the-loop checkpoints

Wk 07 Tool calling and the Model Context Protocol - building and securing MCP servers

Wk 08 Evaluation, cost, and safety - fixed budget/latency envelopes · Sprint 1

Wk 09 Applied Build Laboratory: Constructing and Evaluating a Production AI Service



LLMs | RAG | Agentic AI | MCP | Evaluation | COST

SPRINT 1 DELIVERABLE

A build under constraint

Assessed on correctness, robustness, logs, and cost against a fixed budget and service-level agreement.

MODULE 03 · WEEKS 10-13 · 20 HOURS · SPRINT 2

Course: Client Discovery & Solution Architecture

The client's stated problem is rarely the real problem.

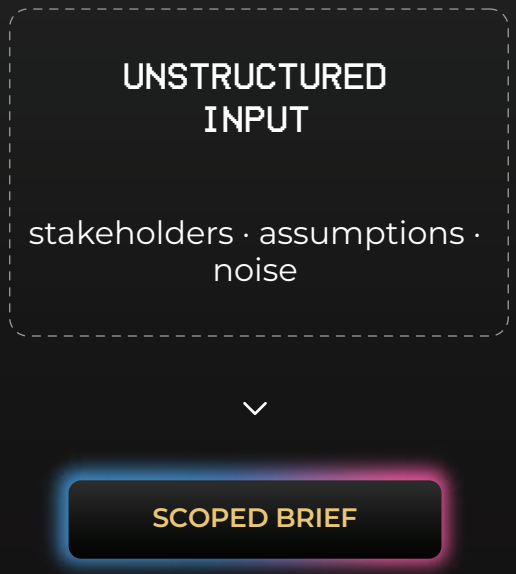
"Add an AI feature to the product" is not a problem statement. It is the beginning of a discovery conversation most engineers never learn to run.

Wk 10 Structured client discovery - a repeatable question framework, real-time synthesis

Wk 11 Stakeholder mapping - decision-makers, influencers, blockers, and Indian enterprise hierarchy

Wk 12 From problem to solution architecture - constraint-first design, the v0 principle

Wk 13 Scoping, Statements of Work, and value hypotheses · Sprint 2



Discovery | Stakeholder Mapping | Constraint-First Architecture | Statement of Work

SPRINT 2 DELIVERABLE

Discovery and scoping on a deliberately vague brief

Scored on the questions asked - turning an ambiguous enterprise ask into a one-page solution brief and a Statement of Work.

Structure

Translation

MODULE 04 · WEEKS 14-19 · 20 HOURS

Course: Enterprise Deployment, Security & Regulated-Industry Operations

A prototype becomes valuable only when it survives production.

The feature shipped Friday. Monday, a customer's personal data showed up in a response. There is no audit trail.

Wk 14 Deploying into constrained environments - cloud, on-premise, IAM, staged rollback

Wk 15 Production operations - drift detection, nested tracing, incident response with clients in the loop

Wk 16 AI security - prompt injection, poisoned retrieval, tool misuse, red-teaming before go-live

Wk 17 The India regulatory layer - DPDP Act, RBI/ IRDAI/TRAI overlays, data sovereignty

Wk 18 Reliability, capacity, and AI FinOps; incident response and post-incident governance

Wk 19 Compliance evidence workshop: building the data-protection readiness assessment

CLOUD | ON-PREMISE

SECURITY / GOVERNANCE / COMPLIANCE BOUNDARY

AI Security | Observability | Governance | DPDP ACT | Reliability

INDIA DIFFERENTIATOR

Regulation taught as design constraint

DPDP consent and erasure architecture, sectoral overlays, and data residency - built into the deployment, not bolted on afterward.

MODULE 05 · WEEKS 20-23 · 20 HOURS

Course: Solution Demonstration & Client Delivery

Technical credibility earns attention. Business impact earns trust.

The system works. The CFO doesn't trust it, the IT lead won't grant credentials, and the room is losing patience.

Structure

Persuasion

Wk 20	Demo engineering - what to skip, what to mock, what to polish; narrating deliberate imperfection
Wk 21	Executive communication - the 90-second explain, non-determinism to a non-technical audience
Wk 22	Objection handling - adversarial questions on cost, risk, and IT approval, without losing trust
Wk 23	Ownership and handover - runbooks, product feedback loop, full FDE interview simulation

Demo Engineering

Executive Communication

Objection Handling

Handover

MODULE OUTCOME

Demonstrate, defend, and deliver

Present an unfinished system credibly to non-technical executives, hand over a working runbook, and perform under the conditions of a real FDE hiring loop.

Projects

01 Enterprise AI Requirement Engineering

A mid-sized enterprise asks for "AI to improve operations" and says nothing more. Interview five stakeholders with competing agendas, separate what they say they want from what they actually need, and turn it into a brief a build team can start from.

Skills - Client Discovery | Stakeholder Mapping | Problem Decomposition | Solution Scoping

02 AI Readiness & Data Maturity Assessment

Before a rupee is spent on building, answer the harder question: can this organisation even support AI? Score seven readiness dimensions against a deliberately messy evidence pack and hand leadership a remediation roadmap they can fund.

Skills -Readiness Assessment | Data Governance | Risk Register | DPDP Act

03 Production LLM Service Development

Prompt it, retrieve it, fine-tune it, or use a classical model? Choose your approach against real latency, cost and data-residency limits, build the service behind a clean API, and evaluate it honestly enough to show where it fails.

Skills -RAG | LLM Engineering | FastAPI | Evaluation Harness | Guardrails

04 LLMOps, Observability & AI Security Hardening

You inherit a working service with no CI/CD, no monitoring, secrets sitting in config files and no defence against prompt injection. Make it something a regulated client can actually run in production - and prove it with dashboards.

Skills -CI/CD | Kubernetes | Observability | Prompt Injection | Defence Incident Response

05 Solution Scoping, Costing & Executive Demo

A working service is not a signed engagement. Scope the SOW, cost it in rupees, engineer a demo that survives adversarial questions on risk and IT approval, and hand over something the client team can run after you leave.

Skills -Statement of Work | Demo Engineering | Executive Communication | Objection Handling

Disclaimer: These projects are indicative samples.

Tools

Python | Git | Anthropic | Gemini | Snyk | Docker

FastAPI | Pydantic | Claude | GitHub Actions | Pinecone | LangChain

LangGraph | CrewAI | Hugging Face | LangSmith

LaunchDarkly | Arize AI (Phoenix) | HashiCorp Vault | Auth0 | k6 | Postman | Postman | OWASP (GenAI Top 10)

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

CAPSTONE

The Live Client Engagement & Demo Day - incl. 1-day IIIT-B campus immersion

The Forward Deployed Engagement

WEEKS 23-24 ·

A REAL CLIENT BRIEF, OR HIGH-FIDELITY EQUIVALENT, RUN END TO END

01 DISCOVER
Understand the real problem

02 ARCHITECT
Design around enterprise constraints

03 BUILD
Develop the AI solution

04 INTEGRATE
Connect enterprise data and applications

05 DEPLOY
Ship into a realistic environment

06 EVALUATE
Measure accuracy, latency, cost, and reliability

07 NUMBER CORRECTION
Explain architecture, economics, security, and business impact

08 DEMO DAY
Present to an expert panel



What gets delivered.
What gets defended.

CAPSTONE DELIVERABLES

01 A discovery brief from a live session with a client stakeholder - graded on the questions asked

02 A solution brief and Statement of Work, scoped against real constraints

03 A working prototype - documented repository, architecture diagram, demonstration video

04 Data-Protection compliance audit and a cost model in rupees

05 A Demo Day presentation with adversarial Q&A

EVALUATED ON

Client Problem Accuracy
25%

Solution Quality & Feasibility
25%

Working Prototype
30%

Q&A & Objection Handling
20%

Campus Immersion From deployment to demo day at IIIT Bangalore







Campus Immersion | Expert Interaction | Cohort Experience | Demo Day | IIIT-B Credential

One day, on campus at IIIT-B: present your capstone, network with faculty and industry panels, and run real client discovery - hands-on, start to finish

Build the system. Own the deployment. Lead the outcome.

Apply to the Executive Post Graduate Programme in Forward Deployed AI Engineering

Travel and accommodation for the campus immersion are the learner's responsibility. Tools, model families, and case studies are reviewed each cohort; named technologies are illustrative and may be updated without changing learning outcomes.

Faculty



Chandrashekar Ramanathan
Professor, IIIT Bangalore

Prof. Chandrashekar is a faculty member at IIIT Bangalore since 2007 serving as professor, researcher and administrator. He has been working in the field of Computing for over 25 years in various capacities across industry and academia.



V Sridhar
Professor, IIIT Bangalore

Dr. V. Sridhar, a professor at IIIT Bangalore's CITAPP, specializes in telecommunicatiaons technology, management, and regulation. He has co-authored two books, published numerous articles in leading journals, and written about 300 articles on Telecom and IT in major business newspapers and magazines.



Vivek Yadav
Technology Officer & Adjunct faculty,
IIIT Bangalore

Vivek Yadav is currently the Technology Officer at IIIT Bangalore. Vivek Yadav is also Adjunct Faculty at IIIT Bangalore since August 2017.

Industry Experts



Shashank Srivastava
Principal Forward Deployed Engineer (AI)

An IIM Lucknow alumnus with 14+ years of experience in product leadership, enterprise AI, and Agentic AI, having worked with Adobe and Wells Fargo.



Indrajit S.
Co-Founder & CTO

13+ years of experience in data engineering and AI, specializing in Generative AI, AI agents, and production-ready enterprise AI solutions as Co-Founder and CTO of CellStrat.



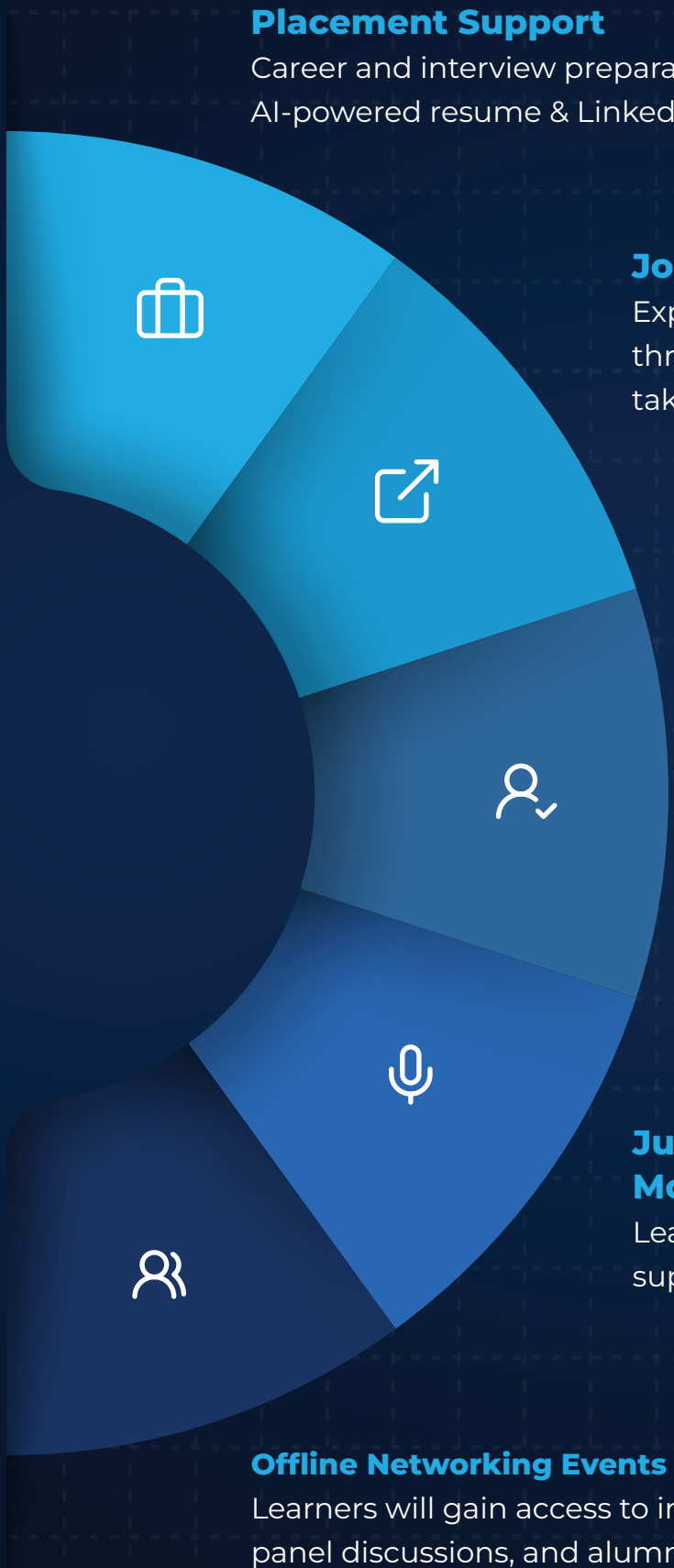
Graduate with evidence – not just knowledge.

Production AI Application	Enterprise RAG System	Agentic Workflow
Solution Architecture	Client Discovery Brief	Statement of Work
Evaluation Framework	Deployment Architecture	Cost Model

Executive Demo

Ten artefacts. One question every hiring manager will ask: can you actually do this? The portfolio answers it.

Career Support



Placement Support

Career and interview preparation content.
AI-powered resume & LinkedIn builder.

Job portal Access

Explore relevant career opportunities through a dedicated job portal helping you take the next step in your career journey.

1:1 Career Coaching

Receive end-to-end guidance from career coaches on self-assessment, goal setting, resume building, LinkedIn optimisation, strategic job search, interview preparation and confidence boosting.

Just-in-Time (JIT) Mock Interview Support

Learners will receive 1 mock interview support before their actual interview.

Offline Networking Events

Learners will gain access to industry expert webinars, panel discussions, and alumni networking events.

About IIITB

The International Institute of Information Technology Bangalore (IIITB)

Established in 1998, IIITB is a premier institute known for its interdisciplinary approach, integrating technology with social sciences. Supported by the Government of Karnataka and the IT industry, IIITB fosters strong academic-industry partnerships and attracts top talent from across India and abroad through its merit-based selection process.

The institute has graduated over 3,500 students, many of whom work at leading IT companies globally. With a focus on research and development in fields like Artificial Intelligence (AI) and Machine Learning (ML), IIITB is recognised as a leader in AI education.

Ranked 69th in the Engineering category of the National Institutional Ranking Framework (NIRF) in 2025, IIITB continues to excel in education and research, making it a preferred destination for aspiring technologists and future leaders.

AICTE

UGC

ABOUT upGrad

"upGrad is a leading global learning and workforce development company. We're on a single-minded mission of powering career success for every member of the global workforce as their trusted lifelong learning partner. Established in 2015, we have over 10 million learners who have upskilled in a range of online and offline programs from top universities in India and the world."

GSV EDTECH 150
Top 150 Most Transformative Growth Companies

BRANDON HALL GOLD AWARDS
15+ awards across 2 years

PROMISING BRAND 2022
The Economic Times

EDUCATION COMPANY OF THE YEAR
VC Circle, 2022

Entrepreneur India
EDUCATION INNOVATION AWARDS 2020
Best Communication & Teaching Platform



Ronnie Screwvala
Co-founder & Executive Chairman

Enrol in 4 small steps,
Then take a giant leap.

STEP 1



Submit Your Application

STEP 2



Get Shortlisted

STEP 3



Receive Your Offer

STEP 4



Block Your Seat

Write to us:
admissions@upgrad.com

Visit us at:
www.upgrad.com

Call: 1800-210-2020

upGrad

LET'S TALK