PROFESSIONAL CERTIFICATE PROGRAM

Applied AI & Data Science Program

Implement AI for Real Business Impact

A hands-on, cohort-based program that takes you from Python and data foundations to machine learning, deep learning, and end-to-end Agentic AI systems. Learn by building — with live online sessions, recorded lectures, real-world case studies, and a portfolio-ready capstone project, delivered by Enggect Innovation.

15 Weeks	10+	Live	Capstone
Program Duration	Real-World Case Studies	Online Sessions	Industry Project

Admissions Open • Upcoming Cohort: July / August 2026

Apply early — limited seats per cohort. **info@enggect.com | www.enggect.com | Hyderabad**

UNLOCK REAL-WORLD IMPACT

Elevate your career in AI & Data Science

The Applied AI & Data Science Program is built around a simple Enggect principle: practical over theoretical. Rather than sitting through long lectures, you spend the majority of your time building — writing and debugging code with AI assistance, training models on real datasets, and shipping working AI systems. The program follows a structured architectural journey from classical predictive modeling to multi-agent system orchestration.

By the end of the program, you will be able to:

- Apply Python and AI coding assistants to build, debug, and evaluate code for real data science tasks
- Use statistical reasoning and machine learning to analyze data, build predictive models, and measure performance
- Design deep learning models, including CNNs and transfer-learning pipelines, for advanced prediction tasks
- Build AI systems for recommendation engines, time-series forecasting, and unsupervised pattern discovery
- Design single- and multi-agent systems using RAG and modern frameworks to solve business challenges
- Evaluate and deploy Agentic AI workflows using meaningful performance metrics, responsibly and ethically

THIS PROGRAM IS IDEAL FOR

Who should join

Designed for engineering professionals and final-year engineering and management students who want to implement AI for real impact, or move into AI and Data Science roles.

Working Engineering Professionals
Ready to move beyond experimenting with AI toward designing and deploying production-grade AI systems and workflows.

Early-Career Professionals
Using GenAI tools who want a rigorous technical foundation in data science, machine learning, and Agentic AI.

Final-Year Engineering & Management Students
Looking for a job-ready portfolio and a recognized certificate before campus placements.

Career Transitioners
Seeking practical expertise in Python, ML, Agentic AI systems, and modern AI frameworks and tools.

KEY PROGRAM HIGHLIGHTS

Why choose this program

- **Live —** Engage in live online sessions and revisit recorded lectures — learn at your pace without falling behind.
- **Agentic & Generative AI built in —** A curriculum infused with the latest in Generative and Agentic AI — Transformers, RAG, prompt engineering, and multi-agent frameworks — focused on real business applications.
- **AI-assisted coding from day one —** Build, debug, and validate code using modern AI coding assistants alongside Python fundamentals.
- **Personalized mentorship —** Weekly guidance from data science and AI practitioners who review your work and unblock you.
- **Portfolio of real projects —** Work on 10+ case studies, an elective project, and a capstone solving real business problems end to end.
- **Enggect certificate with QR verification —** Earn an Enggect-branded certificate of completion with QR-based digital verification you can share with employers.

SKILLS YOU WILL BUILD

Capabilities you walk away with

Python & AI-Assisted Coding	**Statistical Reasoning**	**Data Analysis & Visualization**
Machine Learning	**Deep Learning & CNNs**	**Time-Series Forecasting**
Recommendation Systems	**Prompt Engineering**	**Retrieval-Augmented Generation**
Single & Multi-Agent Systems	**LLM Orchestration**	**Responsible & Ethical AI**

COMPREHENSIVE CURRICULUM

Your 15-week learning journey

Pre-Work	**Python, Data & AI Foundations (Self-Paced)** Google Colab and Python basics, descriptive statistics, the data science lifecycle, and where AI is applied across retail, healthcare, and banking.
Week 1	**AI-Assisted Python Programming** Use AI coding assistants to accelerate development; data handling with Pandas; debugging and validating AI-generated code; structured prompting for code.
Week 2	**Statistics & Data Preparation for AI** Inferential statistics, hypothesis testing and confidence intervals, missing-value and outlier treatment, and AI-assisted data preparation workflows.
Week 3	**Data Analysis & Visualization (Live)** Exploratory analysis, dimensionality reduction (PCA, t-SNE), and clustering techniques (K-Means, hierarchical, DBSCAN) to uncover patterns.
Week 4	**Machine Learning Foundations (Live)** Regression and classification, the bias-variance tradeoff, regularization, cross-validation, and rigorous model evaluation.
Week 5	**Practical ML — Trees, Ensembles & Forecasting (Live)** Decision trees, random forests and ensembles; time-series stationarity, AR/ARMA models, and practical forecasting.
Week 6	**Deep Learning & Computer Vision (Live)** Neural network foundations, training methods, convolutional neural networks, transfer learning, and data augmentation.
Week 7	**Recommendation Systems (Live)** Content-based filtering, collaborative filtering, matrix estimation, and neural approaches to large-scale personalization.
Week 8	**Generative AI & Prompt Engineering** From reactive LLMs to applied GenAI; prompt engineering and optimization; building practical generative applications.
Week 9	**Building AI Agents — Single-Agent Systems** Core agent components — memory, planning, and tool use; designing task-oriented single-agent workflows for business problems.
Week 10	**Multi-Agent Systems, RAG & Evaluation** Collaborative multi-agent design, dynamic task routing, adaptive RAG, and evaluating agents with production-grade metrics.
Week 11	**Responsible AI + Elective Project** Bias mitigation, privacy, and responsible data use; begin an end-to-end elective project in a domain of your choice.
Week 12-15	**Capstone Project & Showcase**

HANDS-ON PROJECTS & CASE STUDIES

Build an industry-ready portfolio

Engage in practical projects and program case studies across multiple industries. (All case studies and projects are indicative and may be refined for each cohort.)

RETAIL

Sales Performance Analysis

Analyze store-level KPIs with Pandas and NumPy, supported by AI-assisted coding, to explore trends and build dashboards that drive category decisions.

SAAS

A/B Test for a Fitness App

Evaluate whether a redesigned onboarding flow improves retention, using hypothesis testing and confidence intervals to draw defensible conclusions.

FINANCE

Credit Default Risk Prediction

Build regression and classification models on loan data, validated with cross-validation and bootstrapping, for robust risk prediction.

E-COMMERCE

Demand Forecasting & SKU Prioritization

Use decision trees, random forests, and ARMA models to classify fast/slow movers and forecast daily order volumes to reduce stockouts.

MANUFACTURING

Defect Detection on a Production Line

Train CNNs on labeled images to detect defects in real time, applying transfer learning and augmentation to perform with limited data.

FINANCE / HR

Multi-Agent Service Copilot

Design a multi-agent system with dynamic routing and adaptive RAG, then apply evaluation metrics to ensure reliability and traceability.

TWO FLAGSHIP PROJECTS

Elective project + capstone

Elective Project

Build an end-to-end solution on a problem from retail, HR, forecasting, computer vision, or recommendations — applying EDA, ML, deep learning, and recommendation techniques to a real dataset.

Capstone Project

Design and deliver a complete AI solution on a problem of your choice, drawing from data science, ML, deep learning, and Generative/Agentic AI to build a scalable, production-minded system.

TOOLS & TECHNOLOGIES

Master an in-demand AI tech stack

Get hands-on with the tools used across modern AI and data science teams:

Python	**Google Colab**	**VS Code**
Pandas & NumPy	**scikit-learn**	**GitHub Copilot**
OpenAI / ChatGPT	**Claude**	**Gemini**
LangChain	**LangGraph**	**n8n**

Prefer a no-code path? Optional tracks introduce Gamma, Canva AI, Perplexity, and Miro so learners from non-programming backgrounds can also build and present AI solutions.

RECOGNITION

Earn an Enggect Professional Certificate

Certificate of Completion — Applied AI & Data Science Program

On successful completion, earn an Enggect Innovation Professional Certificate featuring QR-based digital verification — ready to add to your résumé and LinkedIn profile and instantly verifiable by employers.

* Certificate design is indicative and subject to change.

ADMISSIONS

Program fees & schedule

Program Fee

₹65,000 + GST

Early-bird: ₹55,000 + GST (limited seats)

Less than 50% of comparable premium IIT / IIM certificate programs. No-cost EMI options available.

[Placeholder pricing — edit the fee figures above to your final numbers.]

Eligibility

Open to engineering professionals and final-year engineering / management students. Basic programming exposure helps; foundational Python is covered in the self-paced pre-work.

Format & Duration

15 weeks — live online sessions, weekly mentorship, hands-on projects, and a capstone showcase.

HOW TO ENROLL

Registration process

1. Fill the online application form to register your interest.
2. A short screening conversation to understand your goals and confirm fit.
3. Receive your offer and confirm your seat in the upcoming cohort.

Registrations close once the cohort is full — apply early to secure your seat.

THE ENGGECT DIFFERENCE

Why learn with Enggect Innovation

- **Practical over theoretical —** Minimal lecture, maximum building — every module ends with something you have made.
- **Cohort-based & mentored —** Learn alongside peers with weekly mentorship from practitioners, not just recorded videos.
- **Accessible pricing —** Industry-relevant depth at under half the cost of premium IIT / IIM certificate programs.
- **Verifiable credential —** An Enggect certificate with QR-based digital verification that employers can trust.
- **Built for India's engineers —** Hyderabad-based, with case studies and tools mapped to roles you are actually hiring into.

This brochure is for information only. Curriculum, tools, pricing, schedule, and case studies are indicative and may be updated for each cohort.