

Full-Stack Software Engineer

Design, build, test and deploy modern full-stack applications with production-ready engineering practices.



16 weeks

DURATION

8 phases

CURRICULUM

Capstone

INTEGRATED PROJECT

ABOUT THE ACADEMY

Practical learning. Work you can demonstrate.

Brightnest AI Academy brings live instruction, guided practice and career preparation together for individuals and teams.

23

FOCUSED COURSES

6

FLAGSHIP PROGRAMMES

Noida

ACADEMY LOCATION

Our approach

1

Learn

Understand concepts through live instruction and current examples.

2

Build

Apply learning through labs, assignments and guided projects.

3

Explain

Document decisions, results, trade-offs and limitations.

4

Prepare

Connect completed work with CVs, interviews and workplace conversations.

PEOPLE BEHIND THE ACADEMY

Meet Ranjeet Kumar



ACADEMY ADVISER

Ranjeet Kumar

Innovation & Growth Leader

15+ years

Experience in data, artificial intelligence and machine learning leadership.

Areas of expertise

- Data science and machine learning solution leadership
- AI product strategy and scalable data platforms
- Technology team leadership and mentorship
- Practical AI and data adoption for business transformation

Education

Master of Information Systems, Anna University, Chennai
Bachelor of Computer Science Engineering

PROGRAMME OVERVIEW

Build your next set of skills

Design, build, test and deploy modern software products from frontend to cloud.

Who this is for

Students, programmers and career switchers who want end-to-end software engineering capability and a credible application portfolio.

Before you begin

No professional development experience is required. Learners should be willing to practise programming regularly and complete projects between sessions.

Target roles: Full-Stack Developer / Backend Developer / Software Engineer

LEARNING OUTCOMES

What you will be able to do

01

Build strong Python software-development fundamentals and API skills.

02

Build modern frontend, backend, database and deployment capability.

03

Develop Spring-based enterprise applications and services.

04

Automate API/UI testing and create CI quality gates.

05

Develop algorithmic problem-solving and interview readiness.

06

Containerise, automate and deploy software using CI/CD and cloud-native practices.

07

Build a team product from requirements through tested release.

08

Ship a production-ready full-stack application with architecture, testing, CI/CD and cloud deployment.

CURRICULUM

Your eight-phase pathway

8 phases · 16 weeks · Includes an integrated capstone

01 Programming Foundations

TOPICS

Python Programming Foundations · Data Structures, Algorithms and Pythonic Code · Object-Oriented Design and Type-Safe Python · Files, APIs and Asynchronous I/O · Databases and Persistence · Web APIs with FastAPI · Testing, Packaging and Developer Quality · Deployment and Python Software Capstone

PHASE OUTCOME

Build strong Python software-development fundamentals and API skills.

RELATED COURSE CONTENT

Python Programming & Software Development

Related course content supports this phase. Confirm the cohort-specific learning plan with admissions.

02 Full-Stack Web Engineering

TOPICS

Modern Web Foundations · JavaScript and TypeScript Engineering · React Application Engineering · Frontend Quality, Accessibility and Performance · Backend APIs and Application Architecture · Databases, Authentication and Security · Testing, Containers and CI/CD · Cloud Deployment and Full-Stack Capstone

PHASE OUTCOME

Build modern frontend, backend, database and deployment capability.

RELATED COURSE CONTENT

Full-Stack Web Application Engineering

Related course content supports this phase. Confirm the cohort-specific learning plan with admissions.



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03 Enterprise Java Full Stack

TOPICS

Java Foundations and Developer Tooling · Object-Oriented Java and Collections · Spring Boot and REST API Development · Persistence with Spring Data JPA · Spring Security and Application Security · Frontend Integration for Java Full Stack · Testing, Microservices and Integration Patterns · Containers, CI/CD and Java Full-Stack Capstone

PHASE OUTCOME

Develop Spring-based enterprise applications and services.

RELATED COURSE CONTENT

Java Full-Stack Development

Related course content supports this phase. Confirm the cohort-specific learning plan with admissions.

04 Quality Engineering

TOPICS

Software Quality and Testing Foundations · Test Design and Exploratory Testing · API Testing and Contract Validation · UI Automation with Playwright · Automation Framework Engineering · Database, Integration and Data Quality Testing · CI/CD, Quality Gates and Non-Functional Testing · QA Automation Capstone

PHASE OUTCOME

Automate API/UI testing and create CI quality gates.

RELATED COURSE CONTENT

Software Testing & QA Automation

Related course content supports this phase. Confirm the cohort-specific learning plan with admissions.



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05 DSA + Coding Interviews

TOPICS

Complexity and Problem-Solving Framework · Arrays, Strings and Two-Pointer Patterns · Linked Lists, Stacks and Queues · Trees, BSTs, Tries and Heaps · Graphs and Graph Algorithms · Recursion, Backtracking and Search · Dynamic Programming and Greedy Patterns · Interview Simulation and DSA Capstone

PHASE OUTCOME

Develop algorithmic problem-solving and interview readiness.

RELATED COURSE CONTENT

Data Structures & Algorithms (DSA) for Coding Interviews

Related course content supports this phase. Confirm the cohort-specific learning plan with admissions.

06 DevOps for Developers

PHASE OUTCOME

Containerise, automate and deploy software using CI/CD and cloud-native practices.

RELATED COURSE CONTENT

DevOps, Kubernetes & Cloud Platform Engineering

This phase uses selected topics from the related course references; the complete course syllabus is not implied.



CURRICULUM

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07 Product Engineering Sprint

PHASE OUTCOME

Build a team product from requirements through tested release.

Applied sprint or integrated capstone; no separate focused-course module list is specified.

08 Flagship Capstone

PHASE OUTCOME

Ship a production-ready full-stack application with architecture, testing, CI/CD and cloud deployment.

Applied sprint or integrated capstone; no separate focused-course module list is specified.

APPLIED PORTFOLIO

Portfolio project examples

Illustrative options from the master pathway. Confirm your cohort's project selection with admissions.

PROJECT EXAMPLE 1

Production Python REST Service

Build a tested FastAPI service with database, validation, packaging, Docker and CI.

DELIVERABLES

Source code · tests · OpenAPI · Docker · CI · deployment URL.

PROJECT EXAMPLE 2

Full-Stack SaaS Application

Build a React/TypeScript frontend, secure backend API, PostgreSQL database, tests and cloud deployment.

DELIVERABLES

Live app · source · API docs · database model · E2E tests · CI/CD.

APPLIED PORTFOLIO

Portfolio project examples

Illustrative options from the master pathway. Confirm your cohort's project selection with admissions.

PROJECT EXAMPLE 3

Enterprise Java Business Application

Build Spring Boot API, PostgreSQL persistence, Spring Security, frontend and automated tests.

DELIVERABLES

Source · OpenAPI · database · security · tests · deployed app.

PROJECT EXAMPLE 4

Release-Ready QA Automation Framework

Automate API and UI critical paths with Playwright, data utilities, reporting and CI.

DELIVERABLES

Framework · tests · reports · pipeline · quality summary.

FLAGSHIP CAPSTONE

Production-Ready Full-Stack SaaS Product

Learners integrate the complete pathway into a production-style capstone with a clear brief, architecture or process design, working implementation, testing or evaluation evidence, documentation, mentor review and a final technical or business presentation.

Bring the pathway together

Integrate the pathway into one production-style capstone that demonstrates architecture or process design, implementation, testing or evaluation, documentation, responsible practice and a final presentation.

LEARNING EXPERIENCE

Learn, practise and present

- Live classes that connect concepts to practical applications.
- Guided labs, projects and mentor feedback.
- An integrated flagship capstone with documentation and presentation.
- Career preparation based on completed work and target roles.

CAREER PREPARATION

Build confidence for interviews

A structured process to connect your learning with your next career step.

01**Role clarity**

Identify roles that fit your background, interests and current skills.

02**Profile readiness**

Review your CV, LinkedIn, GitHub and project summaries.

03**Project proof**

Prepare to demonstrate completed work and explain your decisions.

04**Interview practice**

Practise technical questions, project walkthroughs and interviews.

05**Opportunity updates**

Receive relevant job openings and employer requirements, subject to availability and learner readiness.

Career support helps you prepare. Employment outcomes depend on experience, project quality, interview readiness and market conditions.

LEARNER JOURNEYS

Companies where our learners have been hired

Across the Brightnest AI Academy learner community



Learner employment history across the academy; not a placement guarantee for this course. Names and logos identify employers; they do not imply endorsement or a hiring partnership.

BEFORE YOU ENROL

Your questions, answered

How long does the programme take?

The flagship programme runs over 16 weeks.

Are all related courses mandatory?

Some phases use selected topics or alternative course options. Follow the phase-specific guidance and confirm your cohort's learning plan with admissions.

What will I build?

Learners integrate the complete pathway into a production-style capstone with a clear brief, architecture or process design, working implementation, testing or evaluation evidence, documentation, mentor review and a final technical or business presentation.

What support is available?

Live classes, labs, projects, capstone review, mentor feedback and career preparation are part of the learning approach.

FEES & ADMISSIONS

Plan your next step

PROGRAMME FEE

INR 60,000 + GST

EMI and easy instalments available

Duration	16 weeks
Level	Intermediate-Advanced
Learning format	Live mentor-led learning
Batch starts	Expected Saturday / Sunday starts

Check the live Batches page for the next expected weekend. Confirm the exact date, class times and availability with admissions.

Book a free demo class >

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brightnestaiacademy.com/batches

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