



**Vishlesan i-Hub**  
Indian Institute of Technology, Patna

**masai**

Learn in தமிழ்

# Certification in BuildStack AI

FROM VISHLESAN i-HUB, IIT PATNA



# Program overview

<b>Format</b>	Online
<b>Language</b>	Tamil
<b>Duration</b>	4 Months
<b>Commitment</b>	8–10 Hrs/Week
<b>Certification</b>	Vishlesan i-Hub, IIT Patna

## What will you learn?

This 4-month online programme designed for college students and freshers to become role-ready software engineers and product builders. It combines core programming fundamentals in JavaScript and Python with full-stack development, AI-assisted coding workflows, and real-world deployment practices. By the end of the programme, learners build and ship a complete product as a capstone, creating a strong portfolio for entry-level developer roles.

### Toolkit

PYTHON

REACT

CURSOR

GITHUB

JAVASCRIPT

CHATGPT

## Why choose this course?

- Taught in Tamil by expert faculty and industry mentors
- Work on real-world capstone projects designed to solve practical challenges
- Get placement assistance, resume reviews, and coaching  
(Eligibility: 7+ CGPA and 65% attendance)
- Receive a recognized certification from Vishlesan i-Hub, IIT Patna  
(Eligibility: Minimum 65% overall attendance and 30% marks in cumulative evaluations score)

## COURSE DETAILS

# Foundation

Foundation builds programmer fluency and full-stack craft over 10 weeks: JavaScript, web fundamentals, Git, AI-assisted coding, React frontend, and Python FastAPI backend, culminating in shipped full-stack applications.

### Module wise curriculum

- **Module 1: Programming Foundations**  
JavaScript fluency through variables, control flow, functions, arrays, and objects.  
COMPUTATIONAL THINKING • LOGICAL REASONING • PROBLEM DECOMPOSITION
- **Module 2: Web Fundamentals**  
HTML semantics, CSS layout, and Tailwind for responsive, accessible interfaces.  
VISUAL STRUCTURE THINKING • ACCESSIBILITY AWARENESS
- **Module 3: Version Control and Collaboration**  
Git, GitHub, branching, pull requests, and code review etiquette.  
TEAM COLLABORATION • CODE REVIEW DISCIPLINE
- **Module 4: AI as Coding Partner**  
Cursor and Claude Code as daily collaborators for prompt patterns and AI hygiene.  
AI WORKFLOW FLUENCY • CRITICAL VERIFICATION HABITS
- **Module 5: Frontend Fundamentals**  
React, components, hooks, state, and routing for real interactive web apps.  
UI ARCHITECTURE THINKING • COMPONENT-BASED DESIGN
- **Module 6: Backend Fundamentals (Python)**  
Python with FastAPI, REST APIs, and request and response design.  
API THINKING • DATA FLOW MODELLING

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### Tools Acquired

JavaScript • HTML • CSS • Tailwind • React • Python • FastAPI • Git • GitHub • VS Code • Cursor • Claude Code • Vercel

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### Roles unlocked

Software Engineer Intern • Trainee Software Engineer • Junior Backend Developer (Python) • Junior Frontend Developer • Junior Web Developer

## COURSE DETAILS

# Core expertise

Industry Readiness Spotlight introduces autonomy-mode AI thinking and algorithmic problem-solving practice for entry-level technical screens, plus capstone integration where learners ship a real Indian-context product end to end.

### Module wise curriculum

- **Module 1: Vibe Coding and Spec-Driven Dev**  
Two autonomy modes for AI-augmented work, with verification loops and collaboration patterns.  
**AUTONOMY-SLIDER THINKING • SPEC WRITING DISCIPLINE**
- **Module 2: DSA and Algorithmic Problem Solving**  
Arrays, strings, recursion, and time-complexity reasoning calibrated to entry-level technical screens.  
**ALGORITHMIC THINKING • INTERVIEW READINESS**
- **Module 3: Capstone Integration**  
Ship an Indian-context product end to end: spec, build, test, and deploy with CI/CD.  
**END-TO-END OWNERSHIP • PRODUCT THINKING • PORTFOLIO CRAFT**

### Tools Acquired

System Design Canvases • Excalidraw • Capstone Deployment Stack (Full Integration) • LeetCode • HackerRank

### Roles unlocked

Software Development Engineer (Entry-Level) • Associate Product Engineer • Junior Full-Stack Engineer at Product Startups • Junior AI Application Developer • Trainee Engineer in AI-Augmented Teams

## COURSE DETAILS

# Industry specialisation

Core Essentials adds the data, deployment, testing, and Software 3.0 disciplines that turn classroom code into shipped products: PostgreSQL, Pytest, Docker, AWS deployment, CI/CD, and LLM API workflows.

### Module wise curriculum

- **Module 1: Database Fundamentals**  
PostgreSQL via Neon: schemas, queries, joins, and data modelling for real apps.  
**DATA MODELLING INTUITION • QUERY THINKING**
- **Module 2: Testing and Code Review**  
Pytest fundamentals, the test pyramid, and verifying AI-generated code critically.  
**QUALITY MINDSET • CRITICAL VERIFICATION**
- **Module 3: Deployment and Operations**  
Docker containerisation, AWS deployment, and GitHub Actions CI/CD pipelines.  
**PRODUCTION READINESS • OPERATIONAL THINKING**
- **Module 4: Software 3.0 Essentials**  
LLM APIs, prompts as programs, RAG pipelines, and the eval discipline.  
**AI engineering mindset • Eval-driven development**

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### Tools Acquired

PostgreSQL (Neon) • Pytest • Docker • AWS Free Tier • GitHub Actions • LangChain • Chroma • OpenAI API • Claude API

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### Roles unlocked

Junior Full-Stack Engineer • Junior Backend Engineer (Python & FastAPI) • Junior Software Engineer at Early-Stage Startups • Application Developer (Python & React Stack)

# Meet our instructor team



## Vishal Singh

UI Engineer, Microsoft

Frontend developer at Microsoft; previously at Oracle; specialises in JavaScript and modern frameworks like React and Node.js



## Sugan Krishna

Application Engineer, Amazon

Application engineer at Amazon with full-stack development experience across frontend and backend systems, building scalable applications



## Sharon Suresh

Engineering Analyst, Google

Works in growth and partnerships with experience across Google, Porter, and Airmeet in business analysis and data-driven roles



## Venkatesh E

Senior ML Engineer, PayPal

Builds production ML models across dataset design, feature engineering, evaluation, calibration, and performance optimisation



## Balaji Sundararaman

Mentor, e-Careers

Mentors aspiring data scientists with experience across e-commerce and fintech, teaching data science, analytics, machine learning & AI fundamentals



## Abhinandan S P

Assistant Professor, IIT Palakkad

PhD from University of Göttingen; experience at Motorola, Alcatel-Lucent, and HCL in cloud computing and AI systems

*Note: Instructors teaching your batch may change based on specific module expertise, or circumstances such as personal emergencies, unavailability etc.*

# What sets BuildStack AI with Vishlesan i-Hub, IIT Patna apart?

## Certification

Earn a prestigious certificate from Vishlesan i-Hub, IIT Patna, enhancing your career credentials.

## Industry-Relevant Skills

Develop in-demand skills using industry-standard tools and workflows.

## Networking Opportunities

Connect with industry leaders and mentors who provide valuable insights to help advance your AI career.

## Placement Opportunities

Interview support and expert coaching to maximize job placement chances. (Eligibility: 7+ CGPA and 65% attendance)

## How will Masai help you?

### • Placement Opportunities

Get guaranteed interviews and personalized career support, including resume preparation and mock interviews

*Eligibility: 7+ CGPA and 65% attendance in the program*

### • Real-Time Learning Ecosystem

Experience a constantly evolving curriculum with live classes and instant academic assistance, designed to keep pace with industry advancements.

### • Industry Integration and Projects

Participate in hands-on industry projects guided by distinguished faculty and instructors from top experts, ensuring practical and relevant skills development.

# Vishlesan i-Hub, IIT Patna

**National Innovation Hub:** Vishlesan i-Hub at IIT Patna is part of a national mission, advancing AI in speech, video, and text analytics for sectors like health, education, and security.

**Premier Technical Institute:** IIT Patna is one of India's top engineering institutes, known for its cutting-edge research and strong academic foundation.

**Strong Industry & Research Ecosystem:** With active collaborations, incubators, and innovation hubs, IIT Patna bridges academia and industry to drive real-world impact.



# Admission process



## Clear Qualifier Test

Clear the qualifier test to be eligible for the program



## Complete Counselling

Only shortlisted candidates go through the counselling process



## Start Learning

Learn from India's top educators and stand out from the crowd

# Fees structure

<b>Qualifier Test Fee</b> Non-refundable	<b>₹99</b>
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	Option 1	Option 2
	<b>Upfront</b>	<b>EMI</b> (Through our NBFC partners)
<b>Registration Fee</b> Non-refundable	<b>₹2,499</b>	<b>₹2,499</b>
<b>Program Fee</b> Non-refundable	<b>₹27,501</b>	<b>₹ 5,940 x 5 months</b>
<b>Total Fees</b> Non-refundable	<b>₹30,000 + GST</b>	<b>₹32,199 + GST</b>

\*GST at 18% extra, as applicable

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