

# Ayush Rathod

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## WORK EXPERIENCE

### Indian Aviation Academy • Software Development Intern

Jan 2025 - May 2025

Delhi, India (Remote)

- Launched **"Pradipti"**, internship portal for the Indian Aviation Academy, digitizing processes for **5,000+ interns** nationwide. Built and deployed an **AI-powered chatbot** (FastAPI, Docker), reducing manual queries by **50%** (↓40 hrs/wk).
- Developed **responsive frontend** (React.js, Next.js, Tailwind CSS) and **scalable backend services** (Node.js, FastAPI) with **PostgreSQL** and **MongoDB**, handling **100+ daily transactions**.

### Eduplus Campus • AI Software Development Intern

Jun 2024 - Dec 2024

Pune, India (Remote)

- Engineered streaming **text generation API** (FastAPI) achieving **95% retrieval accuracy** and **less than 500ms response times** on large datasets through dynamic semantic chunking and 4-bit quantization of LLM (Llama 3 7B) model.
- Optimized API scalability using **asynchronous processing**, **load balancing**, and **connection pooling**, maintaining **less than 1s latency** during peak loads of 500+ RPM.

### DolphAI • Full Stack Developer Intern

Jan 2024 - Jun 2024

Pune, India

- Built responsive web apps (Next.js, TypeScript) and **architected 5+ backend microservices** (Node.js, FastAPI), **boosting user engagement by 35%** and supporting **over 1000 concurrent users**.
- Deployed and managed cloud-based solutions on **AWS and Azure** using containerization (**Docker**) and CI/CD pipelines (**GitHub Actions**), reducing deployment times by **45%** through process automation.

## PROJECTS

### Microservice-Driven Notification System for E-commerce Platforms

GitHub

Node.js, TypeScript, GraphQL, Apache Kafka, MongoDB, Redis, Prometheus, Grafana, Docker

- Designed a **Kafka-based pub/sub system** with GraphQL API Gateway and JWT authentication, targeting processing of 2,000+ notifications/min for an e-commerce platform using microservice architecture
- Implemented priority-based delivery with **dead letter queues** and a user recommendation algorithm; integrated **Prometheus/Grafana** monitoring to improve system reliability

### NyayaBodh - AI Legal Research Engine

GitHub

React.js, Tailwind CSS, Redux Toolkit, FastAPI, PostgreSQL, Prisma ORM, Hugging Face Transformers, FAISS

- Architected a legal tech platform for real-time PDF processing, entity extraction, and intelligent summarization of court judgments, which processed **over 1,000 legal documents with 90% accuracy**, significantly enhancing legal research efficiency.
- Built an intelligent legal chatbot using LLaMA-3.1 and semantic chunking, driving a **40% increase in user engagement** through context-aware responses(RAG)

## EDUCATION

### Vishwakarma Institute of Information Technology

Jun 2022 - May 2026

Bachelor of Technology in Artificial Intelligence and Data Science

## LEADERSHIP

### Vishwapreneur'25 • Organizing Team

Pune, India

- Headed a 10-member technical operations team within a larger organizing group for Pune's largest entrepreneurial summit (1,500+ attendees)

### Technical Operations Head • AI Student Association(AISA)

VIIT College, Pune, India

- Built registration platforms for Vizathon 2.0 (150+ participants); mentored 10+ students in AI project development

## AWARDS

**Grand Finalist • Smart India Hackathon 2024:** Top 5 nationally (AICTE, Ministry of Law & Justice)

**5x Hackathon Winner:** Recognized for developing scalable cloud-native and AI-driven solutions in various hackathons

## TECHNICAL SKILLS

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**Languages:** JavaScript, TypeScript, Python, C++

**Frontend:** React.js, Next.js, Tailwind CSS, Redux Toolkit

**Backend:** Node.js, FastAPI, GraphQL, RESTful APIs

**Data:** PostgreSQL, MongoDB, Redis, Apache Kafka, Prisma ORM

**Cloud/DevOps:** AWS (EC2, S3), Azure, Docker, GitHub Actions CI/CD

**AI/ML:** Hugging Face Transformers, LLMs (LLaMA-3.1), FAISS, PyTorch

**Certifications:** IBM Full Stack Developer, Cisco CCNA, Stanford ML: Regression/Classification