Ayush Rathod

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EXPERIENCE

DolphAI | **Full Stack Developer Intern**   January 2024 - June 2024
Pune

- Developed 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.

Eduplus Campus | *AI Software Development Intern*   June 2024 - December 2024
Remote

- Engineered a streaming text generation API with FastAPI, achieving **response times under 500ms and 95% retrieval accuracy on large datasets** by implementing dynamic semantic chunking. **Reduced model memory usage by 400% and doubled inference speed** through 4-bit quantization of LLM(Llama 3 7B) model, ensuring low-latency responses for concurrent users.
- Engineered the API to scale for using **asynchronous processing, load balancing, and optimized connection pooling**, ensuring consistent low-latency responses under high load.

Indian Aviation Academy | *Software Development Intern*   January 2025 - May 2025
Remote

- Developed and launched "**Pradipti**", the Indian Aviation Academy's official internship management portal, which **digitized end-to-end processes for thousands of interns nationwide.** This included **leading the development of an AI-powered chatbot module** (FastAPI, Dockerized microservices) that reduced manual query handling by over 50%.
- **Engineered responsive frontend components** (React.js, Next.js, Tailwind CSS) and **scalable backend services** (Node.js, FastAPI), utilizing PostgreSQL and MongoDB to manage dynamic and relational data effectively.

ACHIEVEMENTS

Grand Finalist — Smart India Hackathon 2024 (Ministry of Law and Justice)

- Recognized among top 5 innovative teams nationally for developing impactful, scalable solutions to industry-defined challenges.

5x Hackathon Winner — Recognized for innovative and scalable problem-solving.

PROJECTS

Microservice-Driven Notification System for E-commerce Platforms   *GitHub*
Node.js, TypeScript, GraphQL, Apache Kafka, MongoDB, Redis, Prometheus, Grafana, Docker, Husky

- Designed and implemented a notification system using a microservice architecture for an e-commerce platform, utilizing a **Kafka-based asynchronous pub-sub architecture**, GraphQL API Gateway, Redis caching, and JWT-based authentication.
- Implemented priority-based notification delivery and a smart user **recommendation algorithm**, leveraging **dead letter queues** for enhanced fault tolerance. Integrated **Prometheus** and **Grafana** for comprehensive monitoring and **optimized CI/CD workflows** with Docker Compose for seamless deployment.

NyayaBodh - AI-driven research engine for commercial courts   *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.

Advista - Ad Research Engine for Competitive Insights   *GitHub*
TypeScript, Next.js, Reactjs, Tailwind CSS, Mongoose ORM, Docker, FastAPI

- Developed Advista, a platform for **advanced advertising and marketing research** that **aggregates data from key platforms** (e.g., Google, YouTube, Reddit, Quora) to uncover market trends.
- Analyzed **100+ competitor ads in real-time** to extract **high-performing hooks, CTAs, messaging strategies, and content formats**, which generated a **25% improvement in ad performance** through data-driven strategic decision-making.

EDUCATION

Vishwakarma Institute of Information Technology   June 2022 - May 2026
Bachelor of Technology in Artificial Intelligence and Data Science

POSITIONS OF RESPONSIBILITY

Vishwapreneur'25 | *Organizing Team*   Mahatma Phule Sanskrutik Bhavan, Pune, IN
- Led technical operations for **Pune's largest entrepreneurial summit**, managing a team of 10 students.

Technical Operations Head   Artificial Intelligence and Students Association, VIIT College, Pune, IN
- Created event websites like Vizathon 2.0, streamlining participant onboarding with a dedicated registration platform. Also **mentored AI enthusiasts** in AI technologies and project development.

TECHNICAL SKILLS AND TOOLS

Programming Languages: JavaScript, TypeScript, Python, C++
Technologies: React.js, Next.js, Node.js, FastAPI, GraphQL, Apache Kafka, Redis, PostgreSQL, MongoDB, Tailwind CSS
DevOps and Cloud: Docker, AWS (EC2, S3), Azure, CI/CD (GitHub Actions), Prometheus, Grafana, Git
Certifications: IBM Full Stack Software Developer, Introduction to Networks by Cisco (CCNA), Supervised Machine Learning: Regression and Classification