Ayush Madhav Kumar

Ann Arbor, Michigan

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Education

University of Michigan **Aug 2025 – May 2029**
Bachelor of Science and Engineering in Computer Science *Ann Arbor, Michigan*

Technical Skills

Programming Languages: Python, JavaScript, TypeScript, Java, C, C++
Frontend: React, React Native, HTML, CSS, Flutter, DART
Backend: Node.js, Express, Django, Flask, REST APIs
Databases: MongoDB, PostgreSQL
Tools & DevOps: Docker, Git/GitHub, RabbitMQ, CI/CD, Linux
Cloud/Other: Google Cloud, AWS (basic), OpenAI APIs, Machine Learning, Data Analysis

Experience

Patch **June 2025 – August 2025**
Summer Intern *Dublin, Ireland*

- Built a startup as part of one of Europe's largest startup accelerators, leading the design and technical development.
- Engineered the mobile frontend from scratch using React Native, enhancing user experience and performance.
- Implemented a scalable backend using Django and PostgreSQL to manage user data, health metrics, and notifications.
- Integrated Firebase authentication to enable secure user login and session management in the mobile app.

GIIT Solutions **Summer '24, April '25**
Associate Software Intern *Remote*

- Engineered CI/CD pipelines on AWS, automating deployments and improving reliability.
- Developed Python scripts to streamline backend processes, reducing manual overhead.
- Collaborated with senior developers to optimize cloud infrastructure for cost efficiency.
- Deployed cloud-native solutions with AWS CI/CD, boosting system scalability and uptime.

Projects

COGnitive **Fall 2025**

- Built a full stack web app that provides personalized learning support using OpenAI APIs.
- Developed a full-stack architecture with a Next.js frontend and Node.js/Express backend.
- Implemented user login, progress tracking, and interactive quizzes with real-time feedback.
- Deployed the app on a cloud platform and tested with student users for usability.

TaskPilot **March 2025**

- Developed a full-stack task management platform enabling users to create, update, and track tasks in real time.
- Designed REST APIs in Django to handle user data, task CRUD operations, and authentication workflows.
- Integrated MongoDB as a NoSQL data store to manage dynamic user content and activity logs efficiently.
- Built a responsive React frontend to consume APIs and provide seamless task filtering, sorting, and progress tracking.

Inferno **Winter 2024**

- Developed a backend service to host and serve ML models through REST APIs built in Flask.
- Handled concurrent inference requests asynchronously using RabbitMQ as a task queue.
- Stored model outputs and user queries in MongoDB for later analysis.
- Used Docker to containerize the application and run it consistently across environments.

AuthForge **Summer 2024**

- Developed a backend authentication system providing REST APIs for secure user login and registration.
- Implemented JWT-based session management and password encryption using bcrypt.
- Designed MongoDB schemas to manage user accounts and roles efficiently.
- Containerized the service with Docker for easy deployment and scalability.