

Khyati Tiwari

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Education

VIT Bhopal University

B.Tech in Computer Science and Engineering

Bhopal, India

2022 – 2026 — 8.33/10

Experience

Witting AI

May 2025 – Present

Software Development Engineer Intern

- Engineered a data analytics system by architecting an **OLAP cube** using **Python** and **FastAPI**, implementing robust **API endpoints** to ensure scalability and data integrity.
- Developed a dynamic **filter schema model** for **SQL** and **MongoDB** databases, integrated into a core product configurator, and executed comprehensive testing with **Postman** to validate functionality.

Projects

API Gateway – Secure and Scalable Service Access

- Engineered a lightweight API Gateway using **FastAPI** for routing and proxying requests across backend microservices, abstracting internal service details from external clients.
- Integrated **JWT-based authentication** and **rate limiting** to secure endpoints, enforce authorization, and prevent abuse.
- Implemented structured **logging** and exposed performance metrics via **Prometheus** for observability, debugging, and monitoring.

DigitECG – ECG Analysis Web Application

- Designed and implemented an automated pipeline for digitizing paper ECGs using **Python**, with **OpenCV** for image processing and **NumPy/Pandas** for signal preprocessing.
- Developed an API using **FastAPI** and designed algorithms to detect key waveform peaks and extract clinical metrics from voltage-time data, achieving **95% accuracy** on annotated test sets.
- Built a **React**-based web interface for seamless ECG upload and interactive visualization, enabling effective comparison of digitized leads.

Crop Watch

- Designed a CNN-based model in **Python**, **TensorFlow** for early plant disease detection, achieving 97% accuracy on 51,000+ images across 37 classes.
- Optimized training using Adam optimizer with data augmentation, improving efficiency by 15%.
- Evaluated generalization with a structured test set and Softmax for interpretable outputs.

Skills and Certifications

Languages: Java | Python | C++

Frameworks & Technologies: Git | Docker | FastAPI | Node.js | React | MongoDB | TensorFlow

Relevant Coursework: Data Structures & Algorithms | OOP | DBMS | Operating System

Certifications: The Bits and Bytes of Computer Networking | MATLAB Onramp | Python Essentials

Extracurricular Activities

- Internal Hackathon Finalist – Smart India Hackathon 2023:** Contributed to the **backend development** of a **movie recommendation system**, qualifying for the internal round at VIT Bhopal University.
- Student Coordinator, Cisco Community - VIT Bhopal:** Orchestrated major events, including two hackathons with over **50 team registrations**, and hosted several online hackathons and webinars to boost community engagement.