

Khyati Tiwari

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Technical Skills

Languages: Java | Python | C++ | JavaScript

Frameworks & Technologies: Git | GitHub Actions | Docker | FastAPI | Node.js | React | MongoDB | Kubernetes | Linux

Software Architecture: Microservices | REST API Design | Scalable Backend Systems | Client-Server Architecture

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

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

Experience

Witting AI

May 2025 – Sept 2025

Software Development Engineer Intern

- Architected a **modular system architecture** for a core data analytics system using **Python, FastAPI, and OLAP cubes**, applying **SOLID principles** and **OOP design patterns** to ensure maintainable and scalable code.
- Developed a dynamic filter schema model for **SQL** and **MongoDB** to enable flexible data queries; implemented **unit tests using Pytest** and debugged issues to ensure reliable functionality.
- Collaborated on code integration and managed pull requests to the main branch under project oversight, supporting consistent, reliable, and standards-compliant software delivery.

Projects

API Gateway [FastAPI, Python, JWT, Prometheus]

- Routes and manages requests between **external clients** and **backend microservices**, abstracting internal service complexity and providing **reliable, scalable communication**.
- Implements **JWT-based authentication** and **rate limiting** to secure endpoints, maintain **system stability** under high concurrency, and prevent **unauthorized access**.
- Exposes **structured logging** and **Prometheus-based performance metrics** to enable **monitoring, debugging, and observability** of request flow.

CI/CD Pipeline [GitHub Actions, Docker, Kubernetes, Node.js]

- Automates the full **software build, test, and deployment process** for a Node.js application, ensuring **consistent and repeatable release cycles**.
- Configures secure **Docker image publishing** to Docker Hub via repository secrets, enabling **reliable integration** between CI and CD workflows.
- Deploys applications automatically to a local **Kubernetes (Minikube) cluster**, leveraging **declarative manifests** for **rapid, stable, and reproducible updates** across environments.

DigitECG [Python, FastAPI, React, OpenCV]

- Digitizes **paper ECGs** and extracts **key waveform features** to enable **interactive clinical analysis** and comparison of metrics.
- Processes **ECG signals** via a **Python backend**, exposing **FastAPI-based APIs** to serve data to a **React frontend** for **real-time visualization** and user interaction.
- Implements an end-to-end pipeline for **uploading ECGs, digitizing leads, visualizing results, and comparing clinical metrics**, ensuring smooth integration between **data processing** and **UI display**.

Education

VIT Bhopal University

Bhopal, India

B.Tech in Computer Science and Engineering

2022 – 2026 — 8.35/10

Extracurricular Activities

- Smart India Hackathon 2023 (Internal Finalist):** Contributed to the **backend** for a **movie recommendation system**, qualifying for the internal round at VIT Bhopal.
- Student Coordinator, Cisco Community - VIT Bhopal:** Led hackathons with over **50+ teams** and hosted multiple webinars to enhance developer engagement.
- LeetCode Coding Streaks:** Earned two **100 Days of Code** badges and one **50 Days of Code** badge on **LeetCode** for consistent coding practice and problem solving.