Khyati Tiwari

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Education

VIT Bhopal University   **Bhopal, India**
B.Tech in Computer Science and Engineering   *2022 – 2026*

Experience

Witting AI   **May 2024 – Present**
Software Development Engineer Intern

- Engineered a data analytics system by architecting an **OLAP cube**, leveraging **Python** and **FastAPI**, with adherence to **SOLID principles** to ensure scalability and maintainability.
- Developed a dynamic **filter schema model** to facilitate complex querying for **SQL** and **MongoDB** databases, integrated into a core **product configurator**.
- Implemented robust **API endpoints** and executed comprehensive testing using **Postman** to validate functionality and ensure **data integrity** in production.

Projects

DigitECG: Automated ECG Digitization and Arrhythmia Detection

- Built an image-to-signal digitization tool in **Python, TensorFlow, OpenCV, wfdb** to convert scanned ECG graphs into time series arrays.
- Architected a dual-phase pipeline to train ML models (LightGBM) on ECG signals using features like RR intervals and PQRST segments.
- Implemented an ECG image digitizer with **OpenCV**, extracting 7–12 leads via adaptive thresholding and morphological filtering.
- Achieved 99.8% accuracy on public datasets and validated on 500+ clinical ECG scans.

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**: Qualified in the internal round held at VIT Bhopal University.
- **Student Coordinator, Cisco Community - VIT Bhopal**: Led teams to organize technical events and increase engagement in networking and cybersecurity.
- **Design Team, Editorial Board - VIT Bhopal**: Designed monthly newsletters for the Department of Student Welfare.
- **Industrial Visits - Experiential Learning Program**: Explored telecommunications, IoT, supply chain, and renewable energy at BSNL, ICF, VIT Chennai, TVS, NIWE, Kepler Mass Tech, and the National Gallery of Modern Art.