Komal Saraf

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EDUCATION:

Bachelor of Technology (B.Tech.) - Computer Science   *Sep 2022 - June 2026*
Vellore Institute of Technology (B.TECH CSE Core)
Cumulative GPA - 7.47

SKILLS:

- **Languages**: Python, Java, C++, SQL.
- **Core Competencies**: Problem-solving, Data Structure and Algorithms, Database Management System, Artificial Intelligence, Machine learning (TensorFlow, PyTorch, Scikit, Matplotlib, Pandas), Prompt Engineering, CI/CD Pipelines, Data Engineering, Data Visualization, Data Analysis, Market research, Relationship management, Data interpretation, Reporting and documentation.
- **Tools**: MS Office(Word, Excel, PowerPoint), Tableau, PowerBI, MySQL

PROJECTS:

- **Fake medicine detection**   *Dec 2025 - Ongoing*
    - Addressed the problem of purchase and consumption of fake medicines unknowingly by developing an AI-assisted real-time Computer Vision (CV) pipeline using OpenCV and PyZbar to decode pharmaceutical barcodes, achieving 90%+ classification accuracy on simulated medicine datasets.
    - Engineered a rule-based risk engine that extracts features like batch ID, expiry, from the given barcode on the medicine and scan frequency to classify products as Genuine, Suspicious, or Fake.
    - Implemented a stateful backend using SQLite and Pandas to log 5,000+ daily scans, creating a data-driven audit trail for anomaly detection and pattern analysis.
    - Deployed the interface on Streamlit Cloud with mobile camera integration, reducing manual verification overhead by ~80% enabling real-time medicine verification, ensuring smooth system usability.
    - Tech Stack: Python, OpenCV, Pyzbar, Streamlit, SQLite, Pandas, Matplotlib, Rule-Based ML Logic, Risk Scoring Engine, Mobile Camera Integration.

- **Heart disease detection** (Machine Learning)   *May 2025- Sept 2025*
    - Developed a predictive analytics system for early identification of heart disease risks using patient medical and physical data.
    - Integrated and optimized various machine learning algorithms (e.g., Logistic Regression, Support Vector Machines, Random Forest) to enhance prediction accuracy and efficiency.
    - Attained a prediction accuracy of more than 85% by analyzing 1000+ dataset entries and built visual reports and performance dashboards to communicate insights
    - Skills Used: Python, Scikit-learn, Pandas, NumPy, Matplotlib, ML Model Optimization, Data Analysis.

- **Desktop Assistant**   *Nov 2024- Feb 2025*
    - Developed an automated workflow management system to handle routine operational tasks, resulting in a 20% increase in process efficiency.
    - Designed modular workflows to integrate speech recognition for sub-second voice-to-text conversion and a GUI (Tkinter) for task execution features demonstrating hands-on experience in automation, process streamlining, and user-centric design.
    - Skills used: Automation, OpenCV, PyTorch, Tkinter Python libraries (SpeechRecognition, pyttsx3)

CO-CURRICULARS:
- Python gold badge , Hackerrank
- C++ gold badge , Hackerrank
- Market Research Analysis, NPTEL, IIT Kharagpur.
- Earned 15 Skill badges in Google Cloud Skill Boost.
- A certified course on Generative AI by IBM.
- Member, AI Club, VIT Bhopal 2022 – Coordinated with cross-functional teams and organized multiple events, workshops, and functions involving 500+ people within the AI Club, contributing to community building, knowledge sharing, and enhancing student participation in Artificial Intelligence initiatives