Komal Saraf

Kolkata 700048 | +91 7439766518
Email - komalsaraf04@gmail.com

EDUCATION:

Bachelor of Technology (B.Tech.) - Computer Science *Sep 2022 - June 2026*
Vellore Institute of Technology (B.TECH CSE Core)
Cumulative GPA - 7.48

SKILLS:

- **Languages**: Java, C++, Python, SQL.
- **Core Competencies**: Problem-solving, Data Structure and Algorithms, Object-oriented Programming, Artificial Intelligence, Machine learning (TensorFlow, PyTorch, Scikit, Matplotlib, Pandas), Deep Learning, Prompt Engineering, CI/CD Pipelines, Model optimization, Data visualization, Data Engineering, Data Analytics.
- **Tools**: MS Office Excel (Pivot Table, V Look ups, H Look ups, Duplicate Removal),Google Excel (SQL-like QUERY, ARRAYFORMULA, Pivot Tables, Automation via Apps Script) PowerBI, Canva, Github, MySQL.
- **Soft skills**: Analytical, effective verbal and written communication, collaborative, professionalism, leadership.

PROJECTS:

- **Fake medicine detection** *Dec 2025 - Ongoing*
  - Developed a real-time verification system to mitigate fraud risks in pharmaceutical supply chains and consumer safety risk posed by counterfeit pharmaceuticals using Computer Vision (OpenCV, PyZbar), enabling secure barcode decoding and anomaly detection, achieving 90%+ classification accuracy on simulated medical 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.
  - Built a Secure Audit Trail using SQLite and Pandas to log 5,000+ daily events, enabling pattern analysis and anomaly detection to identify unauthorized distribution clusters.
  - Deployed a Streamlit-based interface with mobile camera integration, improving operational efficiency by ~80% and demonstrating secure system design.
  - 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:

- C++ gold badge , Hackerrank.
- Python gold badge , Hackerrank.
- Member, AI Club, VIT Bhopal 2022 – Coordinated and organized multiple events, workshops, and functions within the AI Club, contributing to community building, knowledge sharing, and enhancing student participation in Artificial Intelligence initiatives
- Worked with real-world–like datasets as part of college coursework to extract insights and trends using data analytical tools, built interactive dashboards, performed data cleaning and preprocessing improving data accuracy and automated report calculations, reducing manual effort and improving consistency.