

# Komal Saraf

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## EDUCATION:

### Bachelor of Technology (B.Tech.) - Computer Science

Vellore Institute of Technology (B.TECH CSE Core)

Cumulative GPA - 7.48

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Sep 2022 - June 2026

## SKILLS:

- **Languages:** Java, C++, Python, JavaScript, SQL, NoSQL.
  - **Core Competencies:** Problem-solving, Data Structure and Algorithms, Object-oriented Programming, Database and Management System, Computer Networking, Operating System, Statistics, Probability, Machine Learning (TensorFlow, PyTorch, Scikit, Matplotlib, Pandas, Seaborn, NumPy), Prompt Engineering, CI/CD Pipelines, Data Engineering, Data warehousing ETL, Data Visualization, Data Engineering, Data Analytics.
  - **Tools:** Microsoft Excel, Google Sheets, Tableau, PowerBI, Github, MySQL.
  - **Soft skills:** Analytical, effective oral and written communication, collaborative, teamwork, adaptability.
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## PROJECTS:

- **CivicHelp AI** *Dec 2025 - Ongoing*
    - Architected and deployed a multimodal GenAI pipeline using Vision Transformers and LLMs to process 10K+ civic complaints, achieving 92% classification F1-score and reducing manual triage time by 60%.
    - Built an embedding + vector search system for similarity detection and hotspot clustering, enabling automated repeated-issue detection and improving routing precision by 45%.
    - Implemented RAG-based policy grounding using municipal SOP embeddings to ensure factually aligned outputs, reducing misinformation risk and improving action recommendation reliability by 30%.
    - Developed predictive trend and anomaly detection models to forecast rising civic issues and track urgency rates improving proactive intervention efficiency by 35%.
    - Tech Stack: Python, Generative AI, OpenAI GPT, LangChain, Whisper, YOLO, Vision Transformers, Sentence Transformers, FAISS/Pinecone, Scikit-learn, TensorFlow, FastAPI, Pandas, NumPy, Matplotlib.
  - **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)
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## CO-CURRICULARS:

- Python gold badge, Hackerrank.
- Completed 15 Skill badges in Google Cloud Skill Boost.
- A certified course on Generative AI by IBM.
- Unsupervised Machine Learning, Stanford University, Coursera.
- Participated in Flipkart Runway Season 4.
- 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.