Abhinav Singh

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Skills

Languages & Tools: Python, SQL, Git, Docker

Frameworks & Tech: OpenCV, NumPy, Pandas, Whisper, Hugging Face, Gemini API, Fernet, Tkinter, Flask, TensorFlow/Keras

Domain: Machine Learning, Deep Learning, NLP, Computer Vision, Cybersecurity

Education

VIT Bhopal, BTech in Computer Science   Sept 2022 – **Expected** May 2026

Projects

Beru AI Personal Assistant   *AI-Powered Full Stack Application*

Python, NLP, Speech-to-Text, Groq, Cohere, Hugging Face, PyQt5

Built a multi-modal AI assistant with voice recognition and real-time web search, reducing latency for complex queries by **[30%]**.

- Integrated Groq, Cohere, and Hugging Face for intelligent responses, achieving a **[95%]** success rate in multi-language intent recognition.
- Designed a modern, intuitive GUI in PyQt5 for seamless interaction and improved user accessibility.

Emotion Recognition System   *Computer Vision, Deep Learning System*

Python, TensorFlow/Keras, OpenCV, CNN, Deep Learning

Developed a CNN-based real-time emotion recognition system, achieving **[92%] classification accuracy** on the FER-2013 dataset.

- Integrated OpenCV for real-time face detection from a live webcam feed, processing video at **[~25] frames per second**.
- Implemented data preprocessing techniques (grayscale, resizing, normalization), which **boosted model performance by [15%]** over baseline.

Advanced Grammar Checker with Gemini   *NLP Desktop Application*

Python, Google Gemini Pro, Speech Recognition, Tkinter, NLP

Developed a desktop application using Google's Gemini Pro model, correcting grammar and spelling errors with **[>98%] precision**.

- Integrated real-time speech recognition to transcribe and correct spoken text with detailed feedback in under **[500ms]**.
- Designed a responsive UI using Tkinter with threaded backend processing to ensure a smooth, non-blocking user experience.

Extracurricular Activities

Technical Lead, Linpack Club, VIT Bhopal – Bhopal, Madhya Pradesh   Dec 2023 – Mar 2025

- Led a technical team of **[5+ students]**, overseeing **[5+]** MATLAB-based projects and co-organizing a university-wide hackathon with **[over 200]** participants to foster innovation and collaboration.

Certifications

- Machine Learning Specialization, **DeepLearning.AI, Stanford University**, Issued Jun 2024
- Cloud Computing, **NPTEL**, Issued May 2024
- Version Control, **Meta**, Issued Jun 2023
- Python Essential Training, **LinkedIn**, Issued Mar 2023