

Abhinav Singh

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ironsupr.github.io/Portfolio/ | linkedin.com/in/abhinav-singh-aslcj3000 | github.com/ironsupr

Skills

Languages: C/C++, Java, Python, HTML, CSS, JavaScript, SQL

Technologies: Machine Learning, Cloud Computing, Data Structures, Algorithms, Software Design, Ethical Hacking

Operating Systems: Linux/Unix, Windows

Tools: Git, MATLAB, Simulink, Microsoft Office (Word, PowerPoint, Excel, etc.)

Databases: MongoDB, MySQL, PostgreSQL

Education

VIT Bhopal, BTech in Computer Science

Sept 2022 – May 2026

- GPA: 8.31/10.0

Projects

Beru AI Personal Assistant

GITHUB LINK

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

Developed an advanced AI assistant with voice recognition, real-time web search, and task automation.

- Integrated Groq, Cohere, and Hugging Face for smart responses, image generation, and multi-language support.
- Designed a modern GUI for ease of access and seamless user interaction.

Emotion Recognition System

GITHUB LINK

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

Developed a CNN-based system for real-time emotion recognition from facial expressions.

- Trained the model on a labeled dataset, achieving over 90% accuracy in emotion classification.
- Integrated OpenCV for real-time face detection and emotion analysis using a webcam.
- Implemented data preprocessing techniques including grayscale conversion, resizing, and normalization for improved model performance.

Face Recognition Attendance System

GITHUB LINK

Python, OpenCV, Face Recognition, Joblib, Concurrent Processing

Developed an AI-powered attendance system using real-time face recognition.

- Implemented a training phase for capturing and storing facial images to enhance recognition accuracy.
- Optimized the system using multi-threading for faster face recognition and attendance logging.
- Stored daily attendance records in CSV format, ensuring easy tracking and retrieval.

Advanced Grammar Checker with Gemini

GITHUB LINK

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

Developed a desktop application for advanced grammar and spelling checks using Google's Gemini Pro model.

- Integrated real-time speech recognition to transcribe and correct spoken text with detailed feedback.
- Implemented a customizable prompt system to fine-tune text corrections for multiple languages.
- Designed a responsive UI using Tkinter with threaded backend processing for smooth user experience.

Podcast Transcription with Whisper

GITHUB LINK

Python, OpenAI Whisper, Speech Recognition, FFmpeg, PyDub

Developed an automated podcast transcription system using OpenAI's Whisper model for speech-to-text conversion.

- Implemented silence-based chunking to enhance transcription accuracy for long-form audio.
- Integrated FFmpeg for MP4 to MP3 conversion, enabling seamless processing of both audio and video files.
- Designed an efficient pipeline for real-time audio processing and automated file handling.

Extracurricular Activities

Technical Lead, Linpack Club, VIT Bhopal – Bhopal, Madhya Pradesh

Dec 2023 – Present

- Organized and facilitated 5 workshops, 3 hackathons, and 2 coding competitions focused on MATLAB, Python, and other mathematical software, engaging over 150 participants.
- Increased participant engagement by incorporating interactive elements into events, leading to a 20% rise in attendee satisfaction ratings.

Certifications

- MongoDB Developer's Toolkit: CRUD Mastery with Node.js, Python, **GeeksforGeeks**, Issued Jan 2025
- Complete Ethical Hacking Bootcamp, **Udemy**, Issued Dec 2024
- Machine Learning Specialization, **DeepLearning.AI**, **Stanford University**, Issued Jun 2024
- Cloud Computing, **NPTEL**, Issued May 2024
- The Bits and Bytes of Computer Networking, **Google**, Issued Dec 2023
- CentOS Linux and Ubuntu Linux: Managing Packages, **Udemy**, Issued Jul 2024
- Ask Questions to Make Data-Driven Decisions, **Google**, Issued Jul 2023
- Foundations: Data, Data, Everywhere, **Google**, Issued Jun 2023
- Version Control, **Meta**, Issued Jun 2023
- Introduction to Android Mobile Application Development, **Meta**, Issued Apr 2023
- Python Data Structures and Algorithms, **LinkedIn**, Issued Mar 2023
- Python Essential Training, **LinkedIn**, Issued Mar 2023
- How to Speak So People Want to Listen, **LinkedIn**, Issued Oct 2022
- Learning C++, **LinkedIn**, Issued Oct 2022
- Learning MATLAB, **LinkedIn**, Issued Oct 2022
- Simulink Onramp, **MathWorks**, Issued Oct 2022