Vipransh Ojha

+91 8448568182 | ojhavipransh@gmail.com | linkedin.com/in/vipransh-ojha | github.com/VipranshOjha

Education

VIT Bhopal University — Bhopal, India
B.Tech in Computer Science and Engineering (AI & ML Specialization) — Sep 2023 – May 2027 (Expected)

Technical Skills

Languages: Python, TypeScript, JavaScript, C++, Java, SQL, HTML5, CSS3

Web Development & Backend: React, Node.js, Express.js, Flask, FastAPI, REST APIs, Tailwind CSS

Databases Cloud: MongoDB, PostgreSQL, SQLite, AWS Cloud Services, Docker, Git, Linux

AI/ML Data Science: TensorFlow, PyTorch, Scikit-learn, OpenCV, Keras, Pandas, NumPy, NLP

Developer Tools Libraries: OpenAI APIs, Google TTS, Whisper, MediaPipe, Pygame, Matplotlib

Experience

Software Development Intern — New Delhi, India
BISAG-N (Government of India) — May 2025 – Jun 2025

- Deployed a full-stack location recommendation system for 500+ users with 85% recommendation accuracy.
- Developed content-based filtering and collaborative filtering algorithms using Python and Scikit-learn.
- Architected a scalable Flask backend with PostgreSQL, processing over 100 queries per second.
- Crafted a responsive user interface with interactive mapping which improved user engagement by 25%.

Research Intern (SERB Sponsored Project) — Bhopal, India
VIT Bhopal University — May 2024 – Jun 2024

- Built 'MolSpectra', a molecular visualization tool from scratch for a computational chemistry research project (SERB Grant No. CRG/20221002761).
- Engineered an interface to integrate 5+ quantum chemistry packages, including Gaussian and GAMESS, automating simulation workflows for researchers.
- Created the application's GUI using PyQt and integrated 3D molecular rendering with GLEW, streamlining the workflow from structure creation to calculation.

Projects

Dikastirio - AI Assistant for E-Courtroom Proceedings — Oct 2025 – Present
Personal AI Project — Python, Unity, RAG, Ollama, LangChain

- Developed an immersive VR platform to streamline access to legal documents in e-courtroom proceedings.
- Engineered a private, local RAG pipeline with Ollama for secure, real-time analysis of sensitive legal texts.
- Architected a multi-modal interface with voice and gesture controls for efficient analysis of legal evidence.
- Optimized VR rendering and data streaming to maintain a consistent 90 FPS for a fluid user experience.

Forensic Identification using Dental Radiology — Jul 2025 – Sept 2025
AI/ML Research Project — Python, Siamese Neural Networks, TensorFlow, Keras

- Constructed an automated forensic identification system with 92% accuracy in matching dental records.
- Trained a Siamese Neural Network on the DENTEX dataset to compare radiographs.
- Built a Flask-based web interface for experts to upload and analyze AM/PM records efficiently.
- Optimized the system to process over 1,000 records per hour, reducing identification time by 90%.

SpeechSync - Voice-to-Text Synchronization System — Nov 2024 – Dec 2024
Collaborative AI Project — Python, NLP, Speech Processing

- Formulated a real-time voice-to-text synchronization system with 95% transcript alignment accuracy.
- Executed advanced speech processing pipelines using Python and NLP, handling 10+ hours of audio data.
- Fabricated an intuitive and user-friendly interface that improved transcript review speed by 30%.
- Revamped overall system performance for faster processing, reducing synchronization delays by 40%.

Achievements & Activities

- Solved over 100+ algorithmic problems on LeetCode.
- Competed in multiple coding competitions and hackathons.