Jai Vadula

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EDUCATION

Vellore Institute of Technology – Bhopal — Bhopal, Madhya Pradesh
Integrated M.Tech in Computer Science and Engineering — Expected May 2026
Major: Computer Science — Minor: Artificial Intelligence CGPA: 8.60/10

Amity International School — Gurgaon, Haryana
CBSE 12th Standard Percentage: 86.0 — May 2021

OLF Convent School — Gurgaon, Haryana
CBSE 10th Standard Percentage: 86.2 — May 2019

SKILLS AND INTERESTS

Skills: C++, Python, HTML, CSS, TensorFlow, Keras, Numpy, Pandas, Matplotlib, Scikit-Learn, Git, MySQL, Jupyter Notebooks, VS Code, MS Office, Google Cloud Platform (GCP)

PROJECTS

Personal Expense Tracker — January 2025 – April 2025
Tech Stack: MongoDB, Express.js, React.js, Node.js

- Developed a full-stack expense tracking application using the MERN stack to help users manage income, expenses, and budgets, featuring JWT-based authentication, protected routes, and secure cloud data storage with MongoDB Atlas.
- Built a responsive and user-friendly interface with React.js and Tailwind CSS, including dark mode, interactive charts (Chart.js), and mobile-first design, improving accessibility and engagement across devices.
- Designed modular REST APIs and backend architecture using Express.js and the MVC pattern, integrating custom middleware, Mongoose schemas, and token-based access control to ensure data integrity and scalability.
- Used Redux Toolkit and React Query for smooth state management and real-time data fetching; manually tested frontend and backend, and prepared the codebase for future automated testing, with full version control on GitHub.

Solar Panel Detection System using Object Detection Transformer — March 2024 – October 2024
Tech Stack: Python, PyTorch, LabelImg, Roboflow

- Engineered a solar panel detection prototype using a custom Object Detection Transformer trained on Indian imagery, achieving 99% accuracy and 20% faster simulated inspection times.
- Addressed rooftop inspection efficiency needs by deploying transformer-based tools for real-world rooftop solar panel detection, enabling scalable assessments for urban planning.

Indian Sign Language Recognition using LSTM Model — June 2022 – October 2022
Tech Stack: Python, OpenCV, MediaPipe

- Designed a deep learning pipeline to recognise hand gestures representing digits ('zero'–'nine') in sign language using a custom dataset.
- Collected and labelled gesture data using OpenCV and MediaPipe Holistic to extract key hand and body landmarks.
- Built and trained an LSTM neural network with 14 sequential and 4 dense layers, optimised for temporal pattern recognition.

CERTIFICATIONS

- GitHub Foundations Certification – GitHub
- Machine Learning Specialization – Coursera
- Applied Machine Learning in Python – Coursera

CO-CURRICULAR ACTIVITIES

Data Science Hackathon – Kharagpur — December 2024 – January 2025

- Advanced to Round 2 of the Kharagpur Data Science Hackathon 2025, organised by IIT Kharagpur, by successfully clearing a competitive Round 1 quiz on machine learning, deep learning, and core data science concepts.

Data Science Simulation – Forage — August 2024 – September 2024

- Completed a simulation project analysing how data science drives business success at British Airways.