Hardik .K. Singh

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Education

Vellore Institute of Technology, Oct 2022 – July 2026
B.Tech in Computer Science and Engineering Specialization in Health Informatics **(GPA: 7.2/10.0)**

Skills

Data Analysis: Python, SQL, Pandas, NumPy, Data Cleaning, EDA.
ML/AI: TensorFlow, Computer Vision, OpenCV.
Web Development: React.js, Java, HTML/CSS, JavaScript.
Tools: Git, Power BI, VS Code.

Projects

Kidney Pathology Detection
Python, SQL, Pandas, NumPy, Data Cleaning

- Extracted and cleaned 5,000+ kidney CT scan images from SQL databases using Python (Pandas, NumPy), performing data validation, outlier removal, and missing value handling to improve dataset quality by 35%, achieving 99.6% model classification accuracy across 4 pathology categories.
- Conducted exploratory data analysis and feature engineering to identify key patterns in medical imaging data, optimizing data preprocessing pipelines and creating standardized datasets that enhanced ML model performance and reduced training time by 30%.

Solar-Powered Agricultural IoT Solution
HTML, CSS, JavaScript, React.js, Arduino

- Developed responsive React.js dashboard with component-based architecture to visualize real-time data from 10+ environmental sensors, achieving 95% uptime across desktop and mobile devices with interactive charts for remote agricultural monitoring.
- Designed intuitive UI/UX for automated irrigation control system using ES6+ JavaScript, CSS3, and HTML5 with mobile-first design principles, reducing manual monitoring time by 70% and ensuring cross-browser compatibility.

Sign Language Translation System
Python, TensorFlow, Computer Vision, OpenCV

- Developed and trained CNN-based gesture recognition model to classify 1,000+ sign language gestures with 88% accuracy, implementing data augmentation and hyperparameter tuning to optimize performance across diverse lighting conditions and hand positions.
- Built end-to-end ML pipeline including dataset preprocessing, model training, and validation with 500+ user interactions, applying transfer learning techniques to reduce inference time by 50% while maintaining high accuracy for real-time video processing.

Awards & Recognition

Health Hackathon Participant | Johns Hopkins University, USA

- Selected among top participants to develop AI-powered healthcare solutions addressing real-world medical.

Second Position, IEEE Q-RiOSITY Competition | VIT Bhopal

- Secured 2nd rank among 100+ participants demonstrating engineering knowledge and rapid problem-solving.

Extra-Curricular

- Web Team Co-Lead at Data Science Club