Hardik .K. Singh

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Education

Vellore Institute of Technology

Bachelor of Technology in Computer Science and Engineering (Health Informatics) *Oct. 2022 – July 2026*

- CGPA: 7.14/10.0
- Relevant Coursework: Data Structures, Algorithms, Machine Learning, Database Systems, Cloud Computing

Technical Skills

Languages: Python, Java, C/C++, JavaScript, HTML5, CSS3, SQL
Frameworks & Libraries: React.js, Node.js, Express.js, PyTorch, OpenCV, TensorFlow
Databases: MySQL, MongoDB, SQLite
Tools & Technologies: Git, GitHub, VS Code, Arduino, ONNX, AWS, Oracle Cloud
Core Competencies: Full Stack Development, Machine Learning, Deep Learning, IoT Systems, Data Analysis

Projects

Kidney Pathology Detection System | *Python, PyTorch, OpenCV, ONNX* July 2024 – Oct. 2025

- Developed AI-powered deep learning system to classify kidney CT scans into 4 pathology categories with 99.6% accuracy using optimized neural network architecture
- Engineered production-ready deployment pipeline with model pruning and ONNX export, reducing inference latency by 40% for scalable medical image analysis
- Implemented data preprocessing techniques improving model generalization by 15% on unseen datasets
- Processed and analyzed 10,000+ medical images to train and validate the model for clinical-grade reliability

Solar-Powered Agricultural IoT Solution | *Arduino, C++, IoT* Oct. 2023 – Mar. 2024

- Designed Arduino-based IoT system monitoring 10+ environmental parameters with 95% data accuracy across 24/7 operations
- Automated irrigation control systems using sensor data analytics, reducing manual intervention by 70% and increasing water efficiency by 35%
- Integrated solar power management ensuring 99% uptime in remote agricultural settings
- Developed real-time data dashboard improving farmer decision-making efficiency by 50%

Sign Language Translation System | *JavaScript, MySQL, Chrome Extension* Apr. 2022 – Sep. 2023

- Built real-time sign language translation Chrome extension with computer vision, processing 1,000+ gestures with 88% recognition accuracy
- Optimized MySQL database architecture improving data retrieval speed by 50% for 500+ user interactions
- Implemented responsive UI/UX design resulting in 40% increase in user engagement from 200+ beta testers

AI Diagnostic System | *Python, Machine Learning, NLP, SQLite* Feb. 2023

- Developed intelligent diagnostic system at Johns Hopkins Health Hackathon processing patient medical records and symptoms for data-driven health assessments
- Applied NLP techniques to extract medical insights from unstructured clinical data with 85% accuracy
- Designed SQLite database schema reducing query response time by 60%

Certifications

Blockchain Development Program | *IBM* Oct. 2025
Blockchain Fundamentals Program | *IBM* Sep. 2025
MERN Full Stack Development Certification | *Ethnus* Sep. 2025

Awards & Recognition

Health Hackathon Participant | *Johns Hopkins University, USA* Feb. 2023

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

Second Position, IEEE Q-RiOSITY Competition | *VIT Bhopal* July 2022

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