RANJITH RAMOLLA

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Summary — Driven Software Developer with 2 years of experience at HCL as a Java Full Stack Developer. Currently pursuing MTech in AI, with a strong foundation in software engineering and IoT. Proficient in Python, Java and full-stack development, with a passion for problem-solving and innovation. Seeking challenging opportunities to apply AI and machine learning expertise in cutting-edge projects.

Skills

Programming Java, Python, C
Hardware Arduino UNO, Arduino Nano, LM35
IoT Soil Moisture Sensors, Wi-Fi Modules
Web Technologies HTML, CSS
AI - ML Machine Learning, Deep Learning, CNN and LLM

Professional Experience

HCL Technologies, Chennai, India **December 2021 – May 2023**
Software Engineer

- Designed and developed scalable full-stack web applications using Java, Spring Boot, and modern front-end technologies (HTML, CSS).
- Worked collaboratively in Agile teams, contributing to sprint planning, feature development, and cross-functional problem-solving to deliver high-quality software solutions.

Education

Amrita Vishwa Vidyapeetham **2024 – 2026**
Master of Technology in Computer Science *CGPA: 8.9*
CMR College of Engineering and Technology, Hyderabad **2018 – 2022**
Bachelor of Technology in Electronics and Communication *CGPA: 8.8*

Projects

Face Detection Using Eigen Decomposition (PCA Algorithm) **2024-2025**

- Implemented a face detection system using the Eigenfaces technique and Principal Component Analysis (PCA) to efficiently recognize faces in images.
- Utilized Python, OpenCV, and NumPy to preprocess image data, extract key facial features, and perform dimensionality reduction for accurate face identification.
- Applied PCA to decompose facial images into principal components, enhancing recognition accuracy while reducing computational complexity.
- Optimized the system for real-time face detection, improving efficiency and performance in facial recognition applications.

IoT-Based Automatic Plant Irrigation System **2017 – 2021**

- Developed a smart irrigation system using Arduino Nano, designed to monitor soil moisture and water levels, ensuring optimal irrigation while minimizing water wastage.
- Integrated soil moisture sensors to assess hydration levels and a water level sensor to prevent system dry outs, enhancing reliability.
- Enabled real-time data visualization and remote monitoring through an Android app, leveraging IoT connectivity for user control and insights.
- Automated irrigation cycles using a relay-controlled water pump, activating only when moisture thresholds were met, reducing manual intervention.
- Enhanced water efficiency in agriculture and gardening, promoting sustainability and reducing labor dependency through intelligent automation.

Certifications

Machine Learning Certification – Geeks for Geeks
Java Full-Stack Developer – Great Learning