Raj Koyani

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EDUCATION

VIT, Vellore Institute of Technology **2021 – 2026**
M.Tech Integrated - Software Engineering *Chennai, Tamil Nadu*
CGPA: 8.49

Swastik School **2019 – 2021**
12th Grade - Science Stream - ***Percentage: 81.53%*** *Completed in 2021*

Nachiketa Schooling System **2016 – 2019**
10th Grade - ***Percentage: 83.5%*** *Completed in 2019*

Skills-Courseworks

- **Languages:** C/C++, JavaScript, PHP, C#, Java, Python
- **Web Development:** HTML, CSS
- **Software Engineering:** Software Engineering, DBMS
- **Machine Learning:** ML
- **Office Tools:** MS Office, WPS Office, LibreOffice
- **Game Development:** Unity Studio (C#)
- **Tools:** Cisco packet tracer, MATLAB, Selenium, Jira, Katolin
- **NPTEL Courses:** E-business
- **Agile Scrum course :** Infosys Agile Course

Experience

3.1 Club Experience

National Service Scheme (NSS) - VIT **2021 – 2023**
Head of Influencer Committee

- Actively contributed to NSS for 2 years, organizing and managing various events.
- Achieved the position of Head of Influencer Committee.
- Managed and expanded the social media presence, particularly on Instagram.
- Instagram Appreciation: **NSS Instagram Post**.

3.2 Work Experience

Techextensor Pvt. Ltd. **1 Month - 2024**
Web Development Intern *Ahmedabad, Gujarat*

- Worked as a trainee web developer at Techextensor for 1 month.
- Gained experience in web development technologies and collaborated on real-world projects.

3.3 Summer Internship Experience

Summer Research Internship - VIT Chennai (IoT Level-5 Project) **June – July 2024**
Research Intern *Centre for Cyber Physical Systems (CCPS), VIT Chennai*

- Completed a 6-week research internship focused on designing an IoT Level-5 Smart Lock System with biometric authentication and emergency auto-unlocking features.
- Integrated cloud services for remote monitoring, data logging, and real-time entry tracking.
- Developed a fail-safe mechanism for unlocking the door during emergencies and enhanced system security with IoT integration.

3.4 Hackathon Experience

Hackathon Participation **2024**
Formulathon 2024 - A Motorsport Ideathon Hosted by VIT

- Participated in Formulathon 2024, developing innovative solutions for motorsport engineering challenges.
- Proposed a unique IoT-based tire pressure monitoring system that provides real-time data to drivers, ensuring better traction, performance, and safety during races.
- Designed an AI-powered pit stop strategy assistant that analyzes race data, tire wear, and fuel consumption in real-time to suggest optimal pit stop timings for maximum efficiency.
- Integrated predictive analytics for proactive maintenance alerts and performance optimization.

Projects

4.1 Project Experience

AN AUTOMATED GLOVE APPARATUS CONFORMABLE TO A HAND OF A USER - ComAlert **2023**

- **Patent Filed:** Patent Number 202341078709.
- Developed a wearable glove designed primarily for coma patients, equipped with microcontrollers, sensors, and communication protocol devices.
- Detects small finger movements when an unconscious patient regains consciousness and attempts to communicate.
- Sends real-time notifications to nearby caregivers through a connected mobile app.
- The app also provides access to a live camera feed for continuous patient monitoring.
- Ensures timely intervention and better care for patients by leveraging IoT and smart wearable technology.
- **GitHub Repository:** An Automated Glove Apparatus .

Smart Lock System with Emergency Auto-Unlocking Feature (IoT Level-5 Project) **2024**

- Designed a smart lock system integrating biometric authentication with emergency auto-unlocking capabilities.
- Utilizes Bluetooth communication via a mobile app to lock and unlock the door.
- Integrated an IoT cloud service to monitor and manage the lock status remotely in real-time.
- The system includes an Arduino board, Bluetooth module, and relay-controlled electric lock for secure access.
- Features a fail-safe mechanism for unlocking the door during emergencies such as fire or medical events.
- Implemented data logging and analytics to track entry times and user access through IoT devices.
- Enhanced security through biometric data and IoT integration, ensuring quick and safe responses in emergencies.
- **Diagram**: Depicts the overall system architecture with communication pathways between smart lock, IoT gateway, mobile app, user, and web server.

Deep Learning Model for Eye Disease Prediction **2024**

- Developed a deep learning-based model for predicting and classifying eye diseases like Normal, Cataract, Diabetic Retinopathy, and Glaucoma.
- Leveraged transfer learning models such as Inception V3, VGG19 for advanced image classification.
- Features include data preprocessing, an interpretability module
- Designed to improve early diagnosis, reduce healthcare costs, and increase accessibility to advanced diagnostic tools.
- **GitHub Repository:** Eye Dieases Detetcion .

GYM Country **2023**

- Gym website developed using HTML, CSS, JavaScript, and PHP.
- Allows users to create, edit, and delete personalized workout routines.
- User-friendly interface ensures seamless interaction with workout management.
- PHP backend ensures secure data handling and storage.
- **GitHub Repository:** GYM Country .

Interests

- Passionate about fitness and regularly engage in gym activities to stay healthy and fit.
- Social work
- Enjoy traveling and exploring new places, cultures, and cuisines.