

# Thirumaran Eniyavan

Department of Computer Engineering

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 eniThiru |  eniyvan |  Portfolio

## About Me

Aspiring Software Engineer with a strong focus on web technologies and cloud infrastructure. Experienced in building full-stack applications using React, Spring Boot, and AWS through academic and team-based projects. Passionate about problem-solving and eager to contribute to real-world software systems.

## Technical Skills

Languages	Java, JavaScript, SQL, Python, C++
Frontend	React.js, React Native, HTML5, CSS3
Backend	Spring Boot, REST APIs, GraphQL
Databases	MySQL, PostgreSQL
Cloud / DevOps	AWS (EC2, S3, IoT Core, RDS), Git
ML / AI	TensorFlow, Keras, CNNs, scikit-learn
Tools	IntelliJ IDEA, VS Code, Postman, Cursor

## Education

2021 – Present	<b>University of Peradeniya</b> B.Sc. Eng. (Hons) specializing in Computer Engineering	<b>CGPA: 3.60 / 4.00</b>
2012 – 2020	<b>Jaffna Hindu College</b>	G.C.E. A/L: 2A, B

## Projects

### Green Tech: Greenhouse Automation (Nov 2024 – Jul 2025)

Group | 

- Contributed to a team developing an IoT-based autonomous greenhouse system with web and mobile applications for real-time monitoring and control of environmental factors.
  - Hardware:** Designed and prototyped an ESP32-based system featuring automatic creation of AWS IoT Core topics.
  - Backend/AWS:** Architected a Spring Boot RESTful API integrated with AWS IoT Core via MQTT protocol; implemented JWT authentication and WebSockets.
  - Mobile App:** Built a cross-platform React Native application (iOS/Android) for device and user registration.
  - Implemented real-time alerting and automation rules enabling autonomous control of irrigation, ventilation, and lighting based on sensor thresholds.
  - Individual Contributions:** Drove full-stack development using Spring Boot and React, engineered MQTT communication flows, implemented JWT security, and managed AWS deployment to ensure a secure, scalable IoT ecosystem.

**Technologies:** Spring Boot, React Native, React.js, MySQL, JWT, AWS (IoT Core, EC2, RDS), ESP32, C++, Git

## MIS for Non-Academic Establishment Division (Apr 2024 – Nov 2024) Group |

- Developed a web-based Management Information System to automate the handling of non-academic staff leave.
  - Designed dynamic forms and multi-level approval workflows using Spring Boot.
  - Implemented role-based access control for staff, department heads, and administrators.
  - Built administrative dashboards with reporting and leave analytics.
  - Integrated email notifications and leave status tracking.
  - Designed a normalized MySQL database with validation and audit logging.

**Technologies:** Spring Boot, Java, MySQL, REST APIs, JavaScript

## Sign Language Recognition Platform (Dec 2023 – Feb 2024)

Group | 

- Developed a web-based sign language learning platform using Convolutional Neural Networks.
- Achieved over **90% classification accuracy** on a custom dataset.
- Integrated a **React.js** frontend with a **Flask** backend for real-time hand sign prediction using **OpenCV**.

**Technologies:** TensorFlow, Keras, React.js, Flask, OpenCV, Python

## Research

### A Hierarchical Hybrid Framework for Intrusion Detection

Group | 

- Developed a web-based sign language learning platform using Convolutional Neural Networks.
  - **Model Performance:** Achieved over 90% classification accuracy on a custom dataset.
  - **Real-Time Prediction:** Integrated a React.js frontend with a Flask backend for real-time hand sign prediction using OpenCV.

**Technologies:** Python, TensorFlow, PyTorch, scikit-learn, Pandas, NumPy, Wireshark

## Certifications

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- 2024 AWS Cloud Practitioner Essentials – AWS
  - 2023 Introduction to Machine Learning – Coursera
  - 2023 Full-Stack Web Development with React – Meta
  - 2022 Data Structures and Algorithms in Java – Udemy

## Referees

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