

# Trilanka Beddegama

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**Visit:**

<https://trilanka.github.io/portfolio/>

## EDUCATION

**Bachelor of Science (Hons.) in Engineering Specialized in Electrical and Electronic Engineering**

*GPA 3.0/4.0*

*University of Peradeniya*

## SUMMARY

- Embedded Machine Learning Engineer with hands-on experience in computer vision, model optimization, and deployment on **NVIDIA Jetson Xavier AGX**. Passionate about building efficient, real-time ML solutions for intelligent IoT and autonomous systems. Researcher with expertise in **YOLO architecture** and **Embedded Linux environments**.

## RESEARCH EXPERIENCE

**Traffic Sign Recognition in Advanced Driving Assistance System ( Final Year Research Project)**

- Developed a local traffic sign recognition system using computer vision and the YOLO model with image processing and hardware acceleration provided by NVIDIA Jetson Xavier AGX. (3<sup>rd</sup> Highest Scored Research Project within Final year projects)
- Research Publication - iPurse Conference - UoP 2024

## PROJECTS (SELECTED)

*Visit Website for Details*

**Drone Project (All Island Competition - Champion)**

- Build a drone for the IESL competition with high maneuverability, capable of carrying a 5kg load, equipped with precise GPS and a Pixhawk controller from scratch. ~ PixHawk, Power, MCU, Communication Protocols, Controls, PID, Autonomous Drivings (Visit website for more details)

**Agentic AI Application for Stock Market**

- Developing a platform that provides sentiment and mathematical metrics on the Sri Lankan stock market using an agentic AI system. ~ Langchain, Langgraph, APIs, React, TailwindCSS, NextJS, AWS EC2, OpenAI LLM/API ~ (Visit website for more details)

**GenAi - Conversational RAG Application using LangChain and OpenAI**

- Developed a Conversational RAG application leveraging LangChain and OpenAI to deliver intelligent, context-aware chatbot solutions. ~ Langchain, Langgraph, CSE APIs, OpenAI API/LLM

**IoT based Paralyzed Patient Monitoring System**

- Developed a real-time AI-based patient monitoring system with data encryption and low-bandwidth communication. (esp32, raspberry pi, linux, communication protocols)
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## Fullstack Development - expereme.com - ongoing

- Developed a SaaS web application to enhance travel infrastructure and support the tourism industry in Sri Lanka.. ~ frontend(NextJS, TailwindCSS, Javascript, Vercel) backend(AWS EC2, postgresql, cognito\_auth, severless, CDN) ~ (Visit website for more details)

## LEADERSHIP/VOLUNTEER EXPERIENCE (SELECTED)

- President - IEEE Robotics and Automation Society University of Peradeniya
- Director Board of Rotaract Club University Of Peradeniya
- Director Board of IETonCampus Peradeniya
- IEEE YPSL Sub-Committee Lead (Environmental Sustainable Governance)
- IEEE R10 Robotics Local Competition - University Representative 2023

## TECH STACK

- C++, Python, Javascript
- Verilog/{system}Verilog
- Synopsys Tools for ASIC Developments
- NodeJS, Express, NextJS 15
- postgresSQL, mongoDB
- AWS

## TECHNICAL EXPERIENCE

- Electrical And Electronic Engineer (3 months) - Srilankan Airlines Ltd.
- Research and Development Engineer (4 months) - CodeGen Pvt Ltd.
- Backend Developer - expereme.com (startup)

## ACHIEVEMENTS

*Visit Website*

- IESL Drone Competition - Winner
- University Ambassador for IEEE Innovation Sri Lanka
- University Delegate for IEEE Conference 2022
- IEEE Member of the Month
- Rotaractor of the Month

## CERTIFICATES / SELF-LEARNINGS

- Neural Networks and Deep Learning (Coursera)
- DevOps - Foundation (Google AZ Foundation Course)
- PostgreSQL
- AWS

## REFERENCE

**Dr. Tharindu Weerakoon**

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University of Peradeniya

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