THILINA CHANDRASEKARA

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ABOUT ME

An enthusiastic individual, pursuing a BSc (Hons) in Electronics and Information Technology, with a strong focus on mobile app development (iOS & Android), web development, machine learning, and robotics & automation. With a strong foundation in electronics and embedded systems, I enjoy building intelligent solutions driven by curiosity to seamlessly connect hardware and software which helps developing projects with a real difference through technology.

EDUCATION

BSc (Hons) Electronics & Information Technology (GPA - 3.003)

2022 - Present
UNIVERSITY OF COLOMBO

- Core Knowledge: Computer Science, Applied Mathematics, Statistics, Physics
- IT Specialization: Advanced Programming, Data Structures & Algorithms, Advanced Database Systems, Software Engineering, Enterprise Applications, Mobile App Development, Robotics & Automation
- Electronics & Systems: Microcontrollers & Embedded Systems, Power Electronics, Industrial Automation

2020 G.C.E Advanced Level Examination (3232586)

2017 - 2019
DHARMARAJA COLLEGE KANDY

- Physics – B
- Chemistry - B
- Combined Mathematics – C

2016 G.C.E Ordinary Level Examination (62344587)

2006 - 2016
D.S. SENANAYAKE COLLEGE KANDY

- 8 A's & 1 B

PROJECTS

Smart Job Finding Mobile Application using Android Studio and Firebase

- Developed a mobile application that bridges job seekers and employers with features like smart job matching, personalized job alerts, and real-time application tracking.
- Integrated Firebase for user authentication, job data storage, and cloud messaging.
- Enabled a smooth and secure experience for applicants and recruiters with intuitive UI, resume uploads, and application history.

Lab Inventory Management System

- Developed a cross-platform solution with a React Native mobile app for students and a web application for administrators and staff.
- Students can view and request equipment, while admins/staff manage inventory, approve requests, and enforce role-based access.
- Used FreeSQLdatabase and TiinyHost for cloud sync, authentication, and reliable multi-user functionality.

Urban Delivery Bot

- Built a delivery robot with manual and autonomous modes using Raspberry Pi, Arduino, and IoT.
- Integrated Google Maps API for navigation, ultrasonic sensors for obstacle avoidance, and dual IP addressing for global IoT control.
- Enabled real-time GPS tracking and remote management via a custom web interface for efficient last-mile delivery.

Simon Game using ATmega328P

- Designed an interactive memory-based game using ATmega328P, 16x2 LCD, LEDs, switches, and EEPROM.
- Implemented random sequence generation, level selection, buzzer feedback, and high score tracking.
- Enabled standalone gameplay with increasing difficulty and real-time user interaction.

Loan Management System using Machine Learning

- Designed a predictive analytics solution for loan approval and default risk using Support Vector Machines (SVM) and kernel methods.
- Optimized model accuracy through preprocessing, feature engineering, and hyperparameter tuning.
- Evaluated with confusion matrix and accuracy metrics.
- Enabled intelligent decision-making in financial services with automated loan risk assessment.

Wearable Strike Detection

- Built an AI-powered glove using Arduino Nano 33 BLE Sense, Edge Impulse ML, and a Bluetooth web API to detect and classify karate strikes in real time.
- The system provides instant feedback via a browser interface, enabling athletes to monitor performance and strike accuracy.
- Integrated motion sensors and on-device ML for highly accurate strike recognition and training analytics.

Gesture-Controlled Smart Fan

- Developed a portable fan controlled using Seeed XIAO and Arduino Nano 33 BLE, leveraging ML-trained motion gestures to wirelessly manage fan speed, power, and lights.
- Implemented real-time gesture recognition with edge inference for smooth and responsive control.
- The project demonstrates gesture-based IoT interaction, combining wearable sensors and embedded ML for intuitive device operation.

Smart Traffic Light System using FATEK PLC

- Developed vehicle and pedestrian traffic control using FATEK 24S-MA PLC with push-button inputs.
- Programmed ladder logic in WinProladder for signal timing and sequencing.
- Simulated traffic lights with LEDs for manual and automated operation.

TECHNICAL SKILLS

- Python – Machine Learning, Data Analysis, Scripting, Raspberry Pi 4
- C / C++ – Embedded Systems, Microcontroller Programming (ATmega328P, Arduino)
- Java – Android App Development (Android Studio)
- PLC - Programming Logic Circuits
- JavaScript / TypeScript – Web Development, React Native, Front-end/Back-end Integration
- HTML / CSS – Front-end Web Development
- PHP – Backend Web Development
- SQL – Database Queries and Integration

EXTRACURRICULAR

- Active Member – Leo Club, University of Colombo
- Active Member – Robotics Club, University of Colombo

REFERENCES

Prof. Hiran H E Jayaweera
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