# VINASIRAJAN **VILAKSHAN**

## PROFESSIONAL SUMMARY

A Highly motivated computer engineering undergraduate eager to contribute to a software engineering team through an internship opportunity. Proficient in networking, machine learning, data structures and algorithms, and embedded systems. Possesses a strong foundation in software development and a passion for innovation. Seeking to apply theoretical knowledge and gain practical experience in developing robust and efficient software solutions.

## EDUCATION

**BSC COMPUTER ENGINEERING (CURRENT)**
University Of Peradeniya
GPA - 3.8/4.0

**DIPLOMA IN MANAGEMENT ACCOUNTING - CIMA**

**PRIMARY & SECONDARY EDUCATION**
Hindu College Colombo -04
GCE A/L - 2A B
GCE O/L - 9A

## COLLABORATIVE PROJECTS

**Digital Twin for Smart Agriculture** (current)

▶ Creating a digital twin of a greenhouse to identify unsupervised learning patterns and optimize agricultural practices using machine learning techniques for increased efficiency and productivity.

**Pegas: Smart Gas Monitoring System** (2023) 

▶ Pegas is a smart gas system that monitors gas levels and detects gas leaks. Our mobile app allows users to view daily usage statistics, consumption levels, and receive notifications for gas leakage incidents.

*Contributions*
- Hardware Integration: Gas Monitoring & Leak Detection
- Flutter Mobile App: Remote Control & Monitoring
- Google Cloud Functions: Event Automation
- Firebase: Secure Data Storage & Sync

**Theif Detection System** (current) 

▶ The Thief Detection System is a security solution designed to detect intrusions using a PIR (Passive Infrared) sensor and an ESP32-CAM module. The system captures images and sends them to subscribed users and a database using MQTT (Message Queuing Telemetry Transport) protocol with a Mosquitto broker.

*Contributions*
- ESP32-CAM , PIR sensor , OTA , Web Serial , Pubsub Client
- Running Mosquitto broker in Raspberry pi
- Scada GUI

**EagleEye: Unleashing Real-Time Remote Monitoring** 

▶ Developed an ESP32 camera system that captures real-time video from an onion storage and seamlessly displays it to the user through a dashboard app.

*Contributions*
- Arduino Coding - ESP32-CAM
- Circuit Design and Integration
- MQTT Dashboard Implementation
- Flutter Mobile App Development

## CONTACT INFO

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## CORE COMPETENCIES
- OOP
- Embedded System
- Data structure and Algorithms
- Computer Communication Networks
- Machine Learning and Data Mining  - (currently)
- Electronics
- Signal Processing
- Database Systems
- Calculus
- Linear Algebra
- Basic Electrical and Electronic Engineering

## LANGUAGES
- Dart
- JAVA
- Python
- C
- Arduino
- MQTT
- SQL
- Node.js
- ARM Assembly
- MongoDB

## FRAME WORK
- Flutter
- Firebase
- Google Cloud Function
- AWS
- TensorFlow

## LEADER SHIP

- Prefects' Guild (2010-2015)
- University Web Development Team - Participation
- Aesthetics Club - President (2017)

## DOMAIN KNOWLEDGE

- e-business
- logistics
- crypto currencies (block chain)

## HOBBIES AND INTEREST

- playing mobile games
- watch Netflix & movies

## SOFT SKILL

- Time Management
- Self-motivation
- Adaptability
- Team Work
- Problem Solving
- Communication

## LANGUAGES

- Tamil
- English
- Sinhala

## EXTRA CURRICULAR ACTIVITY

Intra School Competition
- 200m Race - 5th place (2017)

## ENTREPRENEURSHIP

EMTECHMART (CEO & FOUNDER)
- eBay - for International Customers
- daraz - for Local Customers
- exchange

Emtechpedia (FOUNDER) - 2020
- Tech Blogs Publishing

## ACHIEVEMENT

ACES CODERS
V 9.0
- National-wide problem-solving hackathon
- 26th place out of 100 Teams
- Organized by Computer Engineering Department,
- University of Peradeniya

## INDIVIDUAL APP DEVELOPMENT PROJECTS FOR COMMUNITY IMPACT

➤ **WSAP - Tool Kit For Whatsapp** (2021)

Enables users to create and share polls, save WhatsApp statuses, and split videos for direct status sharing.

- Flutter Mobile App
- Firebase Integration
- Play Store Deployment
- 500+ Downloads

**Sri Lankan Shipping Rate** (2023)
➤ Developed an app to assist direct shipping businesses in calculating shipping rates.

➤ Established and managed the "srilankanshipping.lk" domain to promote and support the Sri Lankan direct shipping community.

- Flutter Web App - Rate Calculator
- WordPress - Home Page
- Search Engine Optimization
- 250+ users

Lankan Assist : An app for All Srilankans  (2021)

➤ A comprehensive app catering to Sri Lankan users, providing a range of features such as real-time Sri Lankan news from Twitter, railway schedule information, and more. (9+ features)

- Developed using Flutter framework
- Integrated ICTA API for railway schedule information
- Utilized Twitter API and queries for real-time news updates
- Garnered 1000+ downloads

## INDIVIDIDUAL  PROJECTS

A DIGITAL CLOCK  (2021)

- Prints the current time and date on a linux terminal in the format and font of a digital clock
- Technologies: C language

BUILDING AN 8-BIT SINGLE CYCLE COMPUTER PROCESSOR- RISC V (2021)

- An 8- bit single cycle processor with an ALU, register file, control logic, data memory, data cache, instruction memory and instruction cache. A memory hierarchy too was built.
- Technologies: ARM Assembly, Verilog HDL

GOOGLE SCHOLOR WEB SCRAPE BOT  (2023)

- obtain user names, their citations counts and link of their google scholor profile
- used for University SEO
- Python, Colab

STUDENT RESULTS MANAGEMENT SYSTEM  (2022)

- A mobile application for undergrads to analyze their results without the involvement of supervisors or lecturers.
- Technologies: AndroidStudio,Java,Firebase Contribution: Mobile App Features

## REFERENCES

Roshan G. Ragel BSc-Eng, PhD
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