

Mohamed Mohabathi Raisary Mowsook

Software Engineer Intern

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Summary

Software Engineer with a strong focus on Web and Mobile Application Development, specializing in cross-platform systems and integrated technologies. Expert in building scalable full-stack web applications using the MERN stack (React, Node.js) and high-performance mobile apps with Flutter and Native Android. Complementing this is a deep proficiency in C/C++ and ESP-IDF for embedded systems development. Proven ability to architect end-to-end solutions, from cloud-integrated user interfaces to local firmware and hardware-level drivers, while leveraging robust Data Structures and Algorithms to ensure system efficiency. ([Portfolio](#))

Education

University of Colombo

Colombo, Sri Lanka

2023 – Present

Faculty of Technology,
Bachelor of Information and Communication Technology Honours,

T/Kin/Kinniya Al Aqsa National School

Kinniya, Sri Lanka

2019 - 2021

Advanced Level : Engineering Technology
Grades: **3A**, Z-Score: **2.5906**

T/Kin/Kinniya Al Aqsa National School

Kinniya, Sri Lanka

2017-2018

Ordinary Level
Key Grades: Science - **A**, Mathematics - **A**

Projects

Lo-Buddy | Secure Offline LLM Assistant (Ongoing)

[Flutter, AI](#)

- Developing a high-performance Flutter application powered by the **Gemma 270M model**, running entirely on-device to ensure maximum user privacy.
- Optimizing local resource utilization and quantization techniques to eliminate the need for constant internet connectivity and external API dependencies.

SprintMaster | Agile & Scrum Project Management Suite

[Web, MERN](#)

- Developed a specialized web-based task management platform focused on Agile and Scrum methodologies.
- Features include sprint tracking, velocity charts, and team collaboration modules.

Pixel2Bytes | Web-Based Graphics Tool

[Web, Tailwind](#)

- Developed a dedicated online tool to facilitate the creation of sprite sheets and pixel graphics tailored for embedded systems displays (e.g., OLED, LCD).
- Optimized asset generation for low-memory microcontrollers (OLED/LCD), streamlining UI development.

Construction TaskFlow | Enterprise Resource Planning Web Platform

[Web, MERN](#)

- Developed a robust web application to streamline construction project management and communication.
- Implemented features for real-time task scheduling, resource allocation, and budget tracking.

Tech Press | Mobile News Application

[Java, Firebase](#)

- Developed a native Android news application using **Java**, tailored for faculty to receive real-time updates.
- Developed a unified codebase for seamless performance across Mobile and Desktop environments.

Xeno Space | Public Chat Space

Flutter, Firebase

- Architected a cross-platform collaborative chat space for developers to communicate and share resources in real-time.
- Integrated Firebase for secure user authentication and back-end database management, ensuring reliable content delivery.

Security Research Multi-Tool | Portable Hardware Hacking Device

C/C++, ESP32S3

(Ongoing)

- Engineering a portable, standalone hardware security tool based on the ESP32-S3 for offline vulnerability assessment.
- Custom Graphics Engine: Developed a proprietary, high-efficiency OLED display library from scratch to optimize UI performance on resource-constrained hardware.
- Local Dynamic Loading: Implementing an SD-card interface to execute modular security binaries on the fly without external network requirements.

Embedded Systems | Display Driver Development

C, ESP-IDF

- Developed and optimized low-level display drivers for SSD1306 OLED and Nokia 5110 LCD displays, focusing on resource efficiency. (Utilized I²C and SPI Protocols)
- Utilized the ESP-IDF framework and C/C++ to create robust, reusable firmware components for embedded hardware (ESP32-S3).

Mobile Remote Controller | Android Remote App

Java, C++

- Engineered a client-server control system using a Java mobile application to interface with an ESP8266 microcontroller.
- Designed and implemented a custom Wi-Fi communication protocol (TCP/IP) between the mobile app and the ESP8266 microcontroller

Technical Expertise

- **Programming :** Python, C/C++, Java, Dart, JavaScript, SQL, Bash.
- **Frameworks & Web:** Flutter, Android SDK (Native), React.js, Node.js, Laravel, PyQt, ESP-IDF.
- **Databases & Cloud:** Firebase (Auth, Firestore, Realtime DB), MongoDB, MySQL, SQLite.
- **Agile & Management:** Agile Methodologies (Scrum), Sprint Planning, Task Prioritization (Jira/GitHub).
- **Tools & Platforms:** Git/GitHub, Postman, CI/CD, Linux (3+ years Experience), Android Studio, VS Code, Vim
- **Core CS & Logic :** Data Structures & Algorithms (DSA), Logical Problem Solving, Core OOP
- **Specialized:** IoT Solutions, Networking, Hardware Diagnosis, OWASP Fundamentals, AI Fundamentals.

Soft Skills

- **Problem Solving:** Strong analytical skills sharpened through competitive programming logic.
- **Adaptability:** Proven ability to switch between high-level web dev and low-level firmware.
- **Communication:** Collaborative team player experienced in technical documentation and peer reviews.

Security Related Certificates

- Getting Started with Threat Intelligence and Hunting | IBM ([Link](#))
- Cybersecurity Fundamentals | IBM ([Link](#))

References

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