

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 Faculty of Technology, Bachelor of Information and Communication Technology Honours,	Colombo, Sri Lanka 2023 – Present
T/Kin/Kinniya Al Aqsa National School Advanced Level : Engineering Technology Grades: 3A , Z-Score: 2.5906	Kinniya, Sri Lanka 2019 - 2021
T/Kin/Kinniya Al Aqsa National School Ordinary Level Key Grades: Science - A , Mathematics - A	Kinniya, Sri Lanka 2017-2018

Projects

Lo-Buddy Secure Offline LLM Assistant (Ongoing) • 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.	Flutter, AI
SprintMaster Agile & Scrum Project Management Suite • Developed a specialized web-based task management platform focused on Agile and Scrum methodologies. • Features include sprint tracking, velocity charts, and team collaboration modules.	Web, MERN
Pixel2Bytes Web-Based Graphics Tool • 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.	Web, Tailwind
Construction TaskFlow Enterprise Resource Planning Web Platform • Developed a robust web application to streamline construction project management and communication. • Implemented features for real-time task scheduling, resource allocation, and budget tracking.	Web, MERN
Tech Press Mobile News Application • 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.	Java, Firebase

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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