Mohitdeep Singh

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EDUCATION

Dalhousie University   Halifax, NS
Bachelor of Computer Science   *Sept. 2022 – Sept. 2026*

Seberang Perai Polytechnic   Penang, MY
Diploma in Computer Engineering   *June 2018 – Aug. 2021*

EXPERIENCE

Software Developer Intern   Mar. 2021 – Aug. 2021
Penang Development Corporation   *Penang, MY*
- Collaborated with a team to develop and optimize software solutions for internal use, contributing to improved operational efficiency.
- Assisted in debugging and refactoring legacy code to enhance system performance and maintainability.
- Created unit tests to validate critical modules, ensuring reliability and reducing production issues.
- Authored comprehensive user guides and technical documentation for newly implemented features.
- Participated in Agile sprints and daily stand-ups for consistent incremental delivery.

PROJECTS

PrismOS – Lightweight Educational Operating System | *C, Assembly, OS Design*   May 2025 – Present
- Initiated development of a custom OS to deepen understanding of low-level systems programming.
- Built a bootloader, kernel, and shell to support task scheduling and memory segmentation.
- Used QEMU and Makefile-based toolchain to emulate hardware and test features in real-time.

SmartBudget – ML-Based Financial Planner | *Java, Firebase, TensorFlow Lite, API*   Jan. 2025 – May 2025
- Built an Android app for students to manage expenses using Firebase and Java.
- Implemented ML models via TensorFlow Lite to analyze spending patterns and generate smart budget tips.
- Integrated grocery API to recommend cost-effective options based on category usage.

ReTrade – Barter Marketplace App | *Java, Firebase, Android Studio*   Sept. 2024 – Dec. 2024
- Developed a local barter trade app with listing, filtering, and in-app chat using Firebase.
- Implemented role-based dashboards (provider/receiver) and authentication.
- Used Firestore and Realtime DB to enable seamless data synchronization.

Automatic Maze Solving Robot | *Aseba, Sensors, Thymio*   May 2023
- Programmed a Thymio robot to autonomously solve mazes using real-time sensor feedback.
- Designed movement logic and obstacle handling using Aseba scripting language.
- Won 1st place in course competition for fastest and most efficient path solution.

TECHNICAL SKILLS

Languages: Java, C#, Python, C, SQL, JavaScript, HTML/CSS, React
Frameworks & Tools: .NET, Node.js, JUnit, Tailwind CSS, Bootstrap
Platforms & Libraries: Firebase, TensorFlow Lite, NumPy, Pandas, Matplotlib
Dev Tools: Git, Docker, VS Code, IntelliJ, Android Studio, AWS, Azure
Concepts: OOP, Algorithms, Data Structures, REST APIs, Agile Development

CERTIFICATIONS

AWS Certified Cloud Practitioner (CLF-C02) – IP
Foundation in AWS cloud, security, architecture, pricing, and deployment models.

AWS Certified AI Practitioner (AIF-C01) – IP
Understanding of ML workflows, AWS AI services, model training, and deployment.