

# Firas Elayan

## Software Engineer

### Summary

Software Engineer skilled in agile development and proficient in Python, Java, C, and Go. Experienced in developing robust applications and using GitHub for efficient workflows. Demonstrated ability to deliver innovative solutions in cross-functional teams.

### Experience

#### Augmented Reality On-Campus Companion Application | Application Designer & Developer *Sept 2023 - Apr 2024*

- Pioneered a functional AR-based prototype using Unity and C, offering immersive on-campus navigation with key features such as location tracking, and real-time event viewing, enhancing user engagement
- Engineered and optimized Google Firebase backend implementation to manage real-time data and authentication, ensuring issueless performance for up to 1,000 simultaneous users
- Drafted and refined a comprehensive SRS document detailing more than 50 functional and non-functional requirements, enhancing system performance standards and ensuring stakeholder alignment
- Leveraged GitHub for team communication, version control, and collaboration, ensuring efficient project development and code quality
- Conducted extensive testing, with over 70 tests performed achieving code coverage of over 95.8% for each module, to ensure the reliability and accuracy of AR functionalities, as well as confirming the application's user capability

#### Software Design: Development of Ride-Sharing Application | Application Designer & Developer *Jan 2023 - Apr 2023*

- Facilitated over 12 brainstorming sessions, which contributed to improved team collaboration and efficiency
- Produced an in-depth SRS document outlining over 40 project requirements, enabling clear project guidelines and aligning the team's objectives
- Developed a fully functional Android prototype using Java and Android Studio, tested on an Android device, achieving over 85% functionality without performance issues
- Designed scalable architecture using PAC and repository models, enabling seamless user growth and system expansion

#### ELC Accessible Beauty Hackathon | System Designer *Feb 2023 - Mar 2023*

- Conceived an AI-based shopping app to enhance accessibility for shoppers with disabilities, estimating a 28% reduction in browsing time based on preliminary user behavior research
- Investigated AI API integration using Microsoft Azure, forecasting potential cost savings of 12.5% against other platforms
- Evaluated industry trends and costs to assess global feasibility, providing insights that refined project scope and identified potential markets for further development
- Planned and organized Agile methodologies, improving team productivity by 18% through structured sprints and iterative feedback cycles

#### Full Self-Driving Infrastructure | System Designer & Developer *Jan 2022 - Apr 2022*

- Collaborated with a multidisciplinary team of 5 to design a fully self-driving vehicle infrastructure
- Implemented a Smart Intersection design that enhanced traffic flow efficiency by around 23% over pedestrian-heavy designs and by 18.5% compared to traditional traffic systems, per a multi-criteria design evaluation
- Created and optimized infrastructure plans using engineering tools, achieving a 50% improvement in performance and regulatory compliance relative to alternative designs
- Generated a Python program to manage vehicle interactions, achieving seamless operations

### Education

#### Bachelor of Engineering: Software Engineering | McMaster University

*Sep 2020 - Apr 2024 | Hamilton, ON, Canada*

- Key courses: Data Structures & Algorithms, Databases, Software Testing, Concurrent System Design, Real-Time Systems, Networks & Security, Continuous Optimization, Performance Analysis of Comp. Systems.

### Skills

**Hard:** Python, Java, JavaScript, Node.js, React, C, C++, Go, SQL, Verilog HDL, GitHub, Kotlin, Android Studio, Shell scripting, HTML, CSS, Microsoft Azure, Agile development, Cloud computing, Networking.

**Soft:** English, Arabic, Teamwork, Research, Communication, Analytics, Problem Solving, Adaptability

