Hamza Elkababji

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Education

The University Of Western Ontario Sep. 2022 – May 2026
Bachelor of Engineering Science in Software Engineering *London, ON*

Relevant Courses: Data Structures and Algorithms, Software Design, Software Construction, Scripting Language, Database Management Systems, Software Project Management, Networking, Probability and Statistics, Linear Algebra

Extracurricular: Engineering Student **Ambassador** 2023 - 2024, Overhaul **Hackathon**, Western Engineering **Competition**, Dean's Honour List 2022 - 2023, The Western Scholarship of Distinction

Technical Skills

Languages: Java, Python, C#, C++, SQL (Derby/JDBC, MySQL, and NoSQL), YAML
Libraries & Frameworks: Pandas & NumPy, Flask, JavaFX, .NET, Node.js, Angular
DevOps Tools: SSH, Microsoft Azure CI/CD, AWS (Amazon Web Services), WSL (Windows Subsystem for Linux)

Experience

IoT Integrator May 2024 – Sep 2024
Smartegrators Ltd. *London, ON*

- **Engineered 9 Python** automation scripts and config files to successfully **integrate 75+ IoT** devices resulting in streamlined device communication within **open source** apps.
- **Optimized** day-to-day operations for **20+** clients by designing and implementing **fully automated** home systems and secure commercial building solutions, enhancing efficiency, convenience, and security.
- Led the deployment of **10+ automation** systems while collaborating within a **cross-functional team** of 5 engineers, providing clear communication across disciplines and ensuring the successful integration of IoT systems.
- **Developed and hosted** a static web app to showcase Smartegrators' services in IoT, AI, and Smart Homes, improving client engagement and providing a centralized platform for service information.

Projects

Media Converter And Organizer | *Python, Tkinter, PyInstaller, MS Partner, Git* Microsoft Store Page

- Developed a **full-stack .exe** application using PyInstaller to convert and organize .HEIC and .MOV files, providing a **solution** for Windows users to access these formats, improving file management and accessibility.
- Converted 7.5k+ and organized 16k+ media files into folders based on year and month as part of the **testing** phase of the **Agile** methodology, providing efficient file management and **system reliability** for the deployment.
- Improved processing speeds by **80%** from the initial release using **multithreading** during a subsequent **sprint**.
- Packaged & **published** the app on the **Microsoft Store** to make it accessible to everyone, while open-sourcing it.

Employee Payroll Application | *Java, JavaFX, SQL(Apache Derby), Maven* GitHub Repository

- Developed a **full-stack** employee payroll application clone using **JavaFX and SQL (Apache Derby)**, allowing admins to manage user accounts, employee information, and payroll data.
- Implemented **login** functionality for admin and user roles, enabling **access control** for sensitive information.
- Designed admin features to add, update, and store detailed employee data, including salaries and personal information, **simplifying** payroll data management and **reducing manual errors**.
- Built a user interface using **JavaFX**, allowing employees to view compensation and manage sick/vacation days.

"Cast Away" Video Game | *C#, Unity, UML (Unified Modeling Language), Git LFS* GitHub Repository

- Developed a RPG (Role Playing Game) with the **Unity** game engine and **C#** on Visual Studio.
- Collaborated on an **inventory/stats system** to track the player's **40+** challenges, items, and encounters.
- Included **interaction logic** with a health & aggression bar so the user may choose the passive or aggressive path.
- **Documented** the development process with **UML diagrams** such as sequence, class, and use case diagrams.

Minecraft Horror Mod | *Java, Gradle, Forge, IntelliJ, Blockbench, Git* GitHub Repository

- **Developed** a **Java** MC mod alongside Computer Science majors, for a horror theme inspired by SCP 966.
- Utilized the Forge framework and **Gradle** on IntelliJ to code the **logic** behind the mobs, items, and buildings.
- Implemented **randomized** spawning and generation to add a sense of adventure to the game.