Muhammad Shaaf Yousaf

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Education

University Of Toronto — Toronto, ON

Honors Bachelor of Science, Computer Science Specialist (Co-op) - Software Engineering — *Jan 2023 – Present*

Certifications:

- Machine Learning: Introduction with Regression - *Codecademy issued June 2024*
- Intro to Cloud Computing - *Codecademy issued June 2024*

Projects

Portfolio Website | *GitHub Pages, HTML/CSS, Affinity Designer, Figma* — *Dec 2024 – Jan 2025*

- Prototyped **9 designs** using **Affinity Designer/Figma** to visualize and improve site layout and user experience before development
- Deployed 2 designs through static pages framework using **GitHub** into a **responsive web-page** using **HTML & CSS**, managing version control and hosting via GitHub Pages
- Optimized user interface for **screen widths** above and below **850 pixels**, which ensured accessibility and usability across devices

Planetze Android Application | *Java, XML, Firebase, Android Studio, Jira, Git* — *Sep 2024 – Dec 2024*

- Developed a fully-featured Android application using **Android Studio** and **Java**, that tracks Carbon-footprint and provides realtime feedback to track and promote carbon-friendly habits
- Implemented **Firebase** to handle user-authentication and data-storage, for user-privacy, real-time data visualization, and daily user surveys
- Tracked app development through Scrum Agile Framework using **Jira** and **Git**, which helped perform **JUnit** testing at the end of Sprint to ensure application performs as expected
- Designed beautiful UI using **XML** and Affinity Designer (13 interactive views), **selected for final project presentation to partner organization** out of 34 total groups

Course Web | *Flask, Python, HTML/CSS* — *Feb 2024 – March 2024*

- Designed back-end using **Flask** framework in **Python**, ensuring accessibility across devices and an active greeting feature that adjusts based on user input for over 100 students enrolled in the course
- Implemented effective UI using HTML/CSS, by creating 10 User Stories with Mock-Ups before development, for a functional and user-friendly design
- Ensured ease in future development by writing a project **Retrospective Report** after development, which detailed challenges faced during the design process

Graffit Social Media | *C* — *Aug 2023 – Sep 2023*

- Developed GRAFFIT, a mock social media application using **C**, implementing graph data structures to manage user connections and brand relationships.
- Engineered 7+ core functions, including creating/deleting users, managing friendships, and connecting similar brands, ensuring data integrity through sorted linked lists.
- Built suggestion algorithms to recommend friends and brands by analyzing mutual interests and adjacency matrices, improving user engagement.

Image Analysis Tool | *C* — *June 2023 – July 2023*

- Devised an image analysis tool in **C**, utilizing a Quadtree data structure and Binary Search Tree (BST) to decompose 512x512 image into uniform color regions, allowing for hierarchical image segmentation.
- Acquired practical experience in algorithm design, data structures, and image processing techniques, while collaborating with peers for code refinement and troubleshooting.

Technical Skills

Languages: Java, Python, C, SQLite, HTML/CSS/XML,
Frameworks: PyTorch, Scikit-learn, Flask, JUnit, Ursina
Developer Tools: Git, Firebase, Google Colab, PyCharm, IntelliJ, Eclipse, VS Code
Graphics Softwares: Figma, Affinity Designer, Blender
Libraries: pandas, NumPy, Matplotlib, google.generativeai