Moustafa Moustafa

Software Engineer Co-op (Summer 2025 4-16 months)

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Education

Software Engineering with Co-op, *Mcmaster University*   09/2022 – 09/2026
                                                                   Hamilton, Canada

Relevant Courses:
- Linear Algebra | Discrete Mathematics and Applications I, II
- Software Design / Software Development
- Databases | Data Structures and Algorithms
- Digital Systems and Interfacing | Computer Architecture
- Integrated Cornerstone Design Projects in Engineering

Professional Experience

Software Engineer / Front-end Developer (intern), *Al Jazeera Media Network* ⧉   05/2024 – 08/2024
                                                                                          Doha, Qatar
- Coordinated and executed activities for the AI function at Al Jazeera with a focus on AI ethics, ensuring responsible AI practices were implemented.
- Tested, evaluated, and validated AI applications to assess performance, scalability, and compliance with ethical guidelines and standards.
- Supervised and mentored an intern on front-end development, enhancing my leadership and communication skills.
- Developed and maintained front-end components using Bootstrap Studio and jQuery, while collaborating with developers and designers to meet project goals and deadlines, enhancing team alignment and user experience.
- Delivered a presentation on Bootstrap best practices, increasing team efficiency in front-end development.

Projects

Seven Segment Display   09/2023 – 12/2023
- Collaborated with a partner to design and implement multiple logic circuits using Verilog, programming a DE1-SoC board to display numbers (1-9) and letters (A-F), demonstrating expertise in hardware programming and digital logic design.

Maze Runner Development and Enhancement ⧉   04/2024 – 04/2024
- Transformed mazes from plain text into traversable graphs by designing sophisticated node and edge structures, applying core software design principles to ensure efficient data handling.
- Integrated the Breadth-First Search (BFS) algorithm to optimize pathfinding capabilities, enhancing navigation through complex mazes.
- Developed and implemented a performance measurement feature to benchmark and analyze the efficiency of various maze-solving strategies, streamlining performance evaluation.

Drone Rescue Mission ⧉   01/2024 – 03/2024
- Collaborated with a team of two over an 8-week period to develop Java software for processing JSON data representing an island map, identifying inlets and emergency sites to enhance rescue operation efficiency.
- Designed and implemented JSON command interfaces to control drone actions within a simulated game environment, improving the system's responsiveness and accuracy.

Skills

AI and Data Science: Testing and Evaluating AI applications, AI Ethics, Data Analysis, NumPy, Pandas |

Front-end Development: HTML, CSS, JavaScript (JS), Bootstrap, jQuery, Responsive Design, UI/UX Design |

Frameworks and Tools: Bootstrap Studio, JSON, MATLAB, Quartus Prime, Autodesk Inventor, CLI, Git, Github |

Programming Languages: Assembly Language (ARM, MIPS), Python, Java, C, C++, JS, SQL, Verilog |

Collaboration and Leadership: DevOps, Mentorship, Team Communication, Project Management