Mohammad (Arsalan) Moaddeli

(Software Developer)

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Summary

A Software Developer with 2-years + industry experience. I thrive in fast-paced working team and with hands-on experience building frontend and backend features integrating GenAI. Strong passion on coding, enjoyed trying out new ideas (Latest Hackathon Project).

Skills:

Next.js, React, Supabase (PostgresQL), React Native, Cypress, Vercel

EDUCATION

Computer Systems - Software Development | Mohawk College, Hamilton, ON 09/2022 – 12/2024

- New graduate student from Software Development field at Mohawk College with a 2-year diploma.
- **Courses:** Programming in .NET | Data Structure and Algorithm in Java | Software Quality & Testing | Programming in Java | Client-Side Web Programming | Programming Fundamentals Python | Server-Side Web Programming | Cloud Computing Azure| Database Theory SQL | Mobile Web Programming |

WORK EXPERIENCE

Full-stack AI Engineer (Intern) | Brave Career | Toronto, ON 01/2025 – 04/2025

- Contributed to **AI-led** interviews for job candidates to evaluate their skills and showcase the results to the hiring managers to choose the best candidates in an **Agile** environment, using **Notion** for agile development, **GitHub** for version control, and **Cursor** for development, ensuring smooth workflow and team collaboration.
- Enhanced the user experience by redesigning UI components and improving the interface for better usability, which led to **7%** increase in sign-ups and optimizing existing functionality using **TypeScript**, **Next.js** and **Supabase**.
- Developed **AI-driven** mock interview modules, collaborated with product managers and data scientists, bulid the features end to end , ensuring **real-time updates** and efficient data handling.
- Automated data processing by developing a **Python (Pandas)** script using to build an ETL pipeline which efficiently ingest data from Notion to Supabase. Implemented unit tests using **Cypress** to validate the functionality of interview challenges and automation, improving reliability and reducing errors.

Data Analyst (co-op) | Procor Limited | Oakville, ON 02/2024 – 05/2024

- Transformed over **100** manual PDF forms into interactive digital forms using **Adobe Acrobat** tools and **JS Editor**, enabling seamless data entry on iPads, reducing paper usage by **90%** and utilizing OOP and JavaScript.
- Collaborated with a team to implement dynamic, dependency-driven form fields using Adobe Acrobat and JavaScript, enhancing user experience and ensuring accurate data mapping across workflows.
- Analyzed, troubleshoot, tested, and automated electronic documents to store only essential data fields from submitted forms, significantly **reducing** storage requirements and improving data **retrieval accuracy**.

ML Research Assistant (Intern) | McMaster Automotive Resource Centre | Hamilton, ON 05/2023 – 12/2023

- Preprocessed and annotated large datasets, including fisheye camera frames and GPS data, for use in LSTM and RNN models to enhance pedestrian safety at intersections.
- Brainstormed and deployed mathematical formulas to identify and track surrounding vehicles in a driver's field of view, creating a dataset for autonomous driving systems to improve situational awareness.
- Trained deep learning models for speed and trajectory prediction, leveraging Python, MongoDB, and Google My Maps, while self-learning advanced ML techniques to optimize model performance.

Web Designer/Developer | private clients/Freelance | Hamilton, ON 05/2022 – 12/2024

- Designed and developed front-end for over 25 websites using WordPress (including DIVI), Shopify, and Wix, and modifying SEO.
- I continued working on Shopify and WordPress projects and created custom logos and icons with Adobe Photoshop.

PROJECTS

Sorting Algorithm Visualizer Fall 2024

- Built a full-stack application with **Java** and **Spring Boot** (backend) and **ReactJS** (frontend) to visualize sorting algorithms like **Bubble Sort**, **Quick Sort**, and **Merge Sort**.
- Designed interactive step-by-step visualizations with clear explanations to enhance user understanding of algorithm mechanics and efficiency.
- Developed **RESTful APIs** for seamless communication between the backend and front end, ensuring **real-time** user interaction.

Dynamic Sorted Collections Library Fall 2024

- Developed **generic** sorted data structures (**SortedArray** and **SortedLinkedList**) in **Java** to automatically maintain elements in sorted order, ensuring efficient organization and access.
- Implemented key operations like **add**, **remove**, and **get** with comparison-based logic, optimizing performance for dynamic data management tasks.
- Tested for correctness and reliability through methodical validation, ensuring consistent behavior and robust handling of edge cases.
- Applied clean coding and **object-oriented design** principles to create maintainable, scalable solutions for future integration into larger systems.

Soccer game
Fall 2023

- Designed a **Unity** soccer game with **C#** allowing players to control a goal using keyboard inputs. Implemented ball **creation**, **movement**, and **collision** mechanics for **dynamic** gameplay.
- Integrated **win-and-lose conditions** with animations and sound effects upon scoring 18 goals or running out of time, ensuring a streamlined user experience.

Java Drawing App
Fall 2023

- Implemented a **Java** drawing app, showcasing **ArrayLists**, and mouse listeners. Employed **OOP principles** with **inheritance** and **encapsulation** for shape classes, enabling parameter configuration and drawing on a **canvas**.
- Enhanced user experience by implementing robust **error handling**, ensuring seamless interaction with **informative error messages** and preventing exceptions during shape creation and drawing.

Media Secure Manager
Fall 2023

- Developed a .**NET** Framework **Console Application** utilizing interfaces and **abstract classes** to manage media (Books, Movies, Songs) with features for **search**, **display**, and **encryption**.
- Engineered solutions for media data management, ensuring efficient handling and **secure encryption** of summaries using **Rot13**.
- Enhanced data organization, improved search functionality, and ensured secure encryption of media content for seamless user interaction.
- Implemented a **modular design** with robust exception handling for efficient file **I/O** and data integrity.

HTML Tag Validator
Fall 2023

- Developed a **Windows Form App** to load and process HTML files using a **GUI** interface. Utilized a **generic Stack<T>** to check if container tags are balanced.
- Designed solutions to ensure proper tag balancing by ignoring non-container tags and handling unmatched opening/closing tags.
- Improved efficiency in managing and validating HTML documents, ensuring accurate tag structure for web development projects.
- Implemented a **modular approach** with a Process method to handle tag validation, enhancing code maintainability and scalability.

Employee Management System
Fall 2023

- Enhanced a file-based system to manage and sort Employee objects using **generics** and **lambda expressions**.
- Replaced manual sorting with **built-in List<T> methods** and eliminated redundant methods by utilizing properties and modular code.
- Streamlined the management of Employee data with efficient sorting and flexible property usage, improving code maintainability and performance.
- Designed a highly **modularized Main method** that dynamically sorts Employee objects, ensuring a scalable and maintainable solution.

Automated Web Testing Project
Fall 2023

- Developed automated web tests using **Selenium WebDriver** and **Katalon Recorder** to validate website functionality across multiple browsers, including **Chrome**, **Firefox**, and **Edge**.
- Automated **repetitive testing tasks**, improving efficiency by reducing manual testing efforts and ensuring consistent test coverage.
- Enhanced software reliability by identifying and fixing issues more effectively, leading to a more **robust** and **user-friendly** web application.
- Integrated **test cases** into **Visual Studio** for seamless execution and collaboration, ensuring comprehensive testing across different platforms.

Optimized Battleship Game Strategy Development
Fall 2024

- Designed and implemented an advanced **probability-based algorithm** to optimize shot selection and minimize moves in the Battleship game.
- Utilized a **checkerboard hunting strategy** and dynamic probability updates to locate ships efficiently and prioritize adjacent cells after a hit.
- Achieved outstanding results an **average shot score of 97.20** and completion of 10,000 games in **1498 ms**, surpassing benchmarks.
- Integrated data structures like **HashSet** and **Queue** for fast duplicate detection and target management, ensuring robust gameplay logic.
- Developed with a focus on adherence to **API constraints**, reproducibility using seeded random numbers, and efficient tracking of sunk ships.

Tims Product and Order Management System
Fall 2024

- Implemented **polymorphism**, **abstract classes**, and **interfaces** for managing TimsProduct and Consumable items, along with creating static factory methods for product creation and handling customer orders.
- Enhanced the system with new Consumable and non-consumable products, incorporating methods like getConsumptionMethod() and getAmountDue() to manage and display product and order details.