

AMGAD ELGAMAL

☎ (873) 200-3728 ✉ amgad.elgamal@mail.mcgill.ca 💻 [Amgad Elgamal](#) 📁 [Portfolio](#) 📍 Montréal, QC

Objective

A motivated individual with in-depth knowledge of languages and development tools, seeking an internship in a growth-oriented company where I can contribute to its mission while having the scope to expand my skill-set.

Education

McGill University – Montréal, QC

August 2022 – April 2026

Bachelors of Engineering in Software Engineering Co-op

Coursework: Data Structure & Algorithms, Intro to Software Systems, Digital Logic, Model-Based Programming

Experience

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August 2023 – Present

Software Engineer Intern

Montréal, QC

- Orchestrated a seamless CMS development using the MERN stack with **TypeScript**; achieved a 35% improvement in backend request handling by optimizing **Node** and **Express.js** configurations.
- Enhanced user interface responsiveness by 50% through judicious use of **React** with **Context API**, **MUI**, and the **TailwindCSS** framework.
- Introduced **TensorFlow** and **OpenCV** integrations, realizing advanced facial recognition capabilities. Alongside, fortified data integrity, achieving a 98% secure transaction rate after integrating the **Stripe API** with **JWT authentication**.
- Reduced front-end code complexity by 30% through efficient use of modular components and utility-first CSS principles, ensuring faster feature deployment and iterative UI/UX improvements.
- Pioneered a streamlined development pipeline, leveraging modular **TypeScript** practices, leading to a 20% acceleration in feature rollouts and collaborative coding.

Ambient Intelligence Lab (AMI-Lab)

May 2023 – August 2023

Data Science Intern

Sherbrooke, QC

- Advanced a medication deprescription study, processing 300M+ JSON and CSV files using Python's **Pandas**, **NumPy**, and **MATLAB** for vital medication metrics.
- Led data extraction from **ElasticSearch** with **KQL** and developed a real-time algorithm, efficient for processing upwards of 100M+ data files, to decode fibre-optic sensor bed mat data through signal processing.
- Utilized **linear regression** for heart rate analysis and deployed **LSTM** models in **TensorFlow** & **Keras** for physical activity pattern recognition, optimizing hyperparameters.

Projects

Cloudnerd | *TypeScript, React, TensorFlow, Firebase* [Web App](#)

June 2022 - July 2022

- Developed a ML - based **React** and **TypeScript** web app for weather forecasting via cloud patterns.
- Integrated **TensorFlow** models with 84% accuracy using climatological data.
- Utilized **Firebase** for backend services, ensuring secure, real-time updates.

Shazoom | *Python, JavaScript, HTML/CSS, Flask* [Git](#)

October 2022

- Developed a speech-recognition UI in **Python** and **Flask** that identifies songs from user vocals.
- Utilized **HTML/CSS** and **JavaScript** for the front-end and integrated multiple APIs to enhance identification accuracy.

Caterpillar Game | *Java, Object Oriented Programming, Data Structures*

March 2023

- Developed a simple caterpillar game using **OOP** principles, featuring movement, collision detection and food consumption, resulting in an interactive gaming experience.
- Implemented diverse Java data structures, including doubly linked lists, stacks, and queues for seamless data management.

Technical Skills

Programming Languages: Python, Java, JavaScript, TypeScript, HTML/CSS

Other: Machine Learning, Data Analysis, ElasticSearch, KQL, Git, Express.js, Node.js, MongoDB, React.js, TensorFlow, Keras, OpenCV, Firebase

Spoken Languages: English, Français, Arabic

Campus Involvement

McGill Egyptian Student Association (ESA) — President

January 2023 - Present

- Steered the association's strategic vision, fostering Egyptian cultural engagement within the university while adeptly overseeing 6 executives to optimize internal communications and sub-committee performance.