

# Amgad Elgamal

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## 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 - Montreal, 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

### BeauT

August 2023 - Present

Software Engineer Intern

Montreal, QC

- Orchestrated a seamless CMS development using the MERN stack with **TypeScript**; achieved a 35% improvement in back-end 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 Kibana Query Language (**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" - ML-based Weather Forecasting Application



June 2022

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

### "Shazoom" - Song lyric recognition web app | Hackathon Award Winner



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.

## SKILLS

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

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

**Spoken languages:** English (Bilingual), French (Professional Working Proficiency), Arabic (Native)

## CAMPUS INVOLVEMENT

### McGill Egyptian Student Association (ESA) | President

Jan 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.