

Amgad El Gamal

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EDUCATION

McGill University – Montreal, QC

August 2022 - Present

Bachelors of Engineering in Software Engineering Co-op / Expected Graduation Date: April 2026

SKILLS

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

Miscellaneous: Machine Learning, Data Analysis, ElasticSearch, Quartus, Git, Express.js, Node.js, MongoDB, React, TensorFlow, OpenCV, Keras

Spoken Languages: English, French, Arabic

EXPERIENCE

BeauT – Beauty and Tech Startup

August 2023 – Present

Software Developer (Part-Time)

Montreal, QC

- Leveraging the **MERN stack** to architect a ground-up CMS, with **MongoDB** for data persistence, **Express.js** for routing, **React** for the frontend interface, and **Node.js** ensuring a cohesive backend structure.
- Utilizing **TensorFlow** and **OpenCV** for enhanced facial recognition in BeauT's platform.
- Prioritizing data security with **JWT authentication** and **MongoDB's encryption-at-rest** to protect client information and maintain platform stability.

Ambient Intelligence Lab (AMI-Lab) | Université de Sherbrooke

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 | PORTFOLIO

“Cloudnerd” – ML-based Weather Forecasting Application | HEP 2022 🔗

June 2022

- Crafted a **React** and **TypeScript** web app that interprets cloud patterns for weather forecasting.
- Integrated a **TensorFlow** machine learning model trained on extensive climatological data.
- Deployed **Firebase** for backend services, ensuring secure, real-time UI updates.
- Demonstrated strong performance, with an impressive **84% accuracy rate** in weather prediction, underscoring the model's proficiency in analyzing complex meteorological patterns.

“Shazoom” – Song lyric recognition web app | Hackathon Award Winner 🔗

October 2022

- Designed a speech-recognition UI that identifies user-sung songs and retrieves top matches.
- Employed **Python** and **Flask** for backend development, **HTML/CSS** for content structuring, and **JavaScript** for dynamic frontend interactions.
- Integrated several **speech-recognition APIs** to cross-verify lyrical inputs, boosting song identification accuracy.

“Jouan” – Diet-Based Restaurant Locator Chabot | McHacks 🔗

February 2023

- Built an interactive chatbot to identify user dietary preferences and locate nearby suitable restaurants.
- Used **Python** and **Google Maps API** for backend development and restaurant data retrieval.
- Frontend constructed with **JavaScript**, **CSS/HTML** for a user-friendly interface.

LEADERSHIP

President - Egyptian Student Association (ESA) | McGill University

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.