# 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**

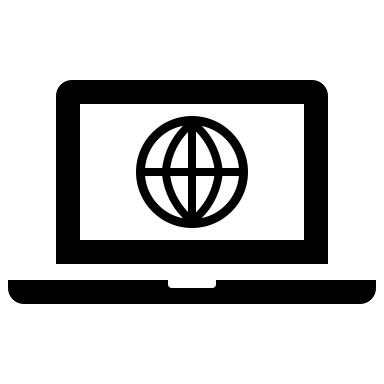
*Software Developer (Part-Time) Montreal, QC*

* 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.

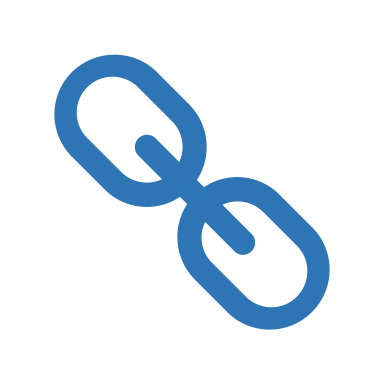
**Ambient Intelligence Lab (AMI-Lab) | Université de Sherbrooke** **May 2023 – August 2023**

*Data Science Intern Sherbrooke, QC*

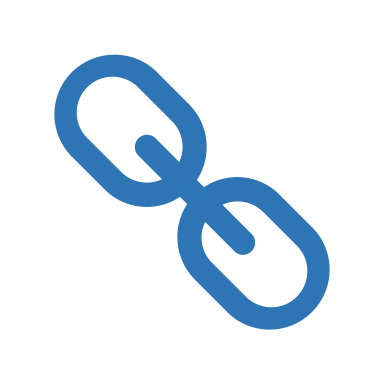
* Advanced a medication deprescription study, processing **300M+** JSON and CSV files using Python's **Pandas, NumPy, and MATLAB** for vital medication metrics.
* Led data extraction from **ElasticSearch** with Kibana Query Language (**KQL**) and developed a real-time algorithm, efficient for processing 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.

**[](https://amgadelgamal.github.io/portfolio/)**

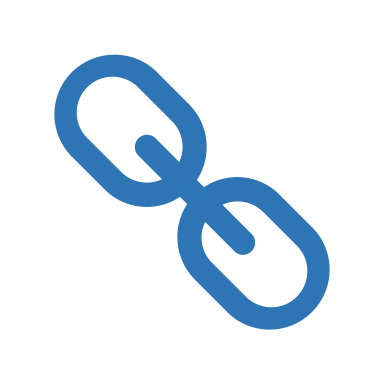
# PROJECTS | [PORTFOLIO](https://amgadelgamal.github.io/portfolio/)

***[](https://welcome-to-cloudnerd.web.app/)*** [***“Cloudnerd” –*ML-based Weather Forecasting Application** | **HEP 2022**](https://welcome-to-cloudnerd.web.app/) **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.

**[](https://github.com/amgadelgamal/Shazoom)**[***“Shazoom”* – Song lyric recognition web app | Hackathon Award Winner**](https://github.com/amgadelgamal/Shazoom) **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.

**[](https://github.com/amgadelgamal/Jou-an)**[***“Jouan”* – Diet-Based Restaurant Locator Chabot** | **McHacks**](https://github.com/amgadelgamal/Jou-an) **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.