# Education

**McGill University – Montreal, QC**  **August 2022 - Present** *Bachelors in Software Engineering Co-op GPA: Upon Request*

# Technical Skills

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

**Relevant Courses:** Digital Logic, Discrete Structures, Data Structures and Algorithms, Object-Oriented-Design (OOD)

**Miscellaneous:** Machine Learning, Data Analysis & Visualization, Software Design, ElasticSearch, Quartus, Git,

**Spoken Languages:** English, French, Arabic

## Internships & Work Experience

**BeauT – Beauty and Tech August 2023 – Present**

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

* Spearheading the development of a robust CMS using **Django** and **React**, optimizing for 1000+ client interactions and data management.
* Collaborating on AI enhancements for BeauT’s platform, leveraging **TensorFlow** and **OpenCV** for Python-based facial recognition and image processing.

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

*Data Science Intern Sherbrooke, QC*

* Advanced a 4-year medication deprescription research, culminating in a pivotal scholarly article.
* Analyzed **300M+ JSON and CSV** datasets using Python's **Pandas** & **NumPy** alongside **MATLAB**, deriving crucial medication-activity metrics.
* Spearheaded data extraction from **ElasticSearch**, optimizing complex queries with **Kibana Query Language (KQL)**.
* Engineered a **real-time algorithm via signal processing** to decode fiber-optic sensor bed mat data.
* Employed **linear regression modeling** in **Python** to analyze heart rate time-series data, visualizing trends and capturing key statistical parameters.
* Deployed **LSTM-based predictive models** within **TensorFlow** and **Keras** frameworks, streamlining physical activity pattern recognition via hyperparameter optimization.

## Engineering Projects & Hackathons

***“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**, and **HTML5** for a user-friendly interface.

***“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, **HTML5** for content structuring, and **JavaScript** for dynamic frontend interactions.
* Integrated several **speech-recognition APIs** to cross-verify lyrical inputs, boosting song identification accuracy.

***“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.

**Block Game (Java) April 2023**

* Utilized Quad-Trees, ArrayLists, and Recursive Algorithms for efficient backend development of the Block Game.
* Applied Object-Oriented Design (OOD) principles and built a robust scoring system.
* Conducted Algorithm Complexity Analysis to ensure optimized game performance.