

AMGAD ELGAMAL

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Education

McGill University – Montréal, QC

August 2022 – April 2026

Bachelors of Engineering in Software Engineering Co-op

Coursework: Data Structures & Algorithms, Operating Systems, Model-Based Programming, Computer Organization

Technical Skills

Programming Languages: Python, Java, C, JavaScript, TypeScript, R, Bash, Flux

Frameworks: Node.js, React.js, Express.js, MongoDB, Firebase, TensorFlow, Keras, Linux, Cucumber, Mesa, InfluxDB

Tools: Git, Google Cloud Platform, Google Cloud Functions, Microsoft Azure, Elasticsearch, Kibana Query Language (KQL)

Experience

Google

May 2024 – August 2024

STEP Intern

Waterloo, ON

- Developed an open-source **Google Chat App SDK** with integrated **generative AI** capabilities utilizing **Vertex AI** & **Dialogflow CX APIs** in **Java** and **TypeScript** thereby streamlining Google Chat app development.
- Engineered a **Node.js** application that facilitates adding an app to multiple Google Chat spaces autonomously using **Google Chat APIs** and **Google Slash commands**, deployed via **Google Cloud Functions**.
- Implemented comprehensive **unit tests**, utilizing **JUnit**, **Jest**, **Mocha**, and **Sinon** to ensure robust performance and enhance overall reliability of both the **GenAI SDK** & sample apps with high code coverage.
- Created and iterated design documents for the **GenAI SDK** in collaboration with **senior engineers** and **managers**.
- Presented **GenAI SDK** to the **Chat Platform** team showcasing project & takeaways to **40+** engineers & managers.

Ericsson

January 2024 – May 2024

Machine Learning Intern

Montréal, QC

- Led a **Mesa**-based Multi-Agent Modeling project, enhancing model accuracy by **16%** through the development of **Python**-based **ML** agents and further optimizing system robustness by testing using **PyTest**.
- Integrated **Azure** for **MLOps** management, reducing deployment times by **15%** and boosting operational efficiency.
- Developed a **Java**-based **Android** app for tracking network user equipment and ensured its reliability with **JUnit** tests.
- Enhanced team coordination and showcased public speaking skills through bi-weekly **Agile** presentations via **JIRA**.

University of 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 to optimize elderly physical activity while reducing medication load.
- Led data extraction from **Elasticsearch** with **KQL** and developed a real-time algorithm that is efficient for processing upwards of **100M+** data files, to decode fibre-optic sensor bed mat data through signal processing.
- Utilized **non-linear regression** for heart rate analysis and deployed **LSTM** models in **TensorFlow** & **Keras** for physical activity pattern recognition, optimizing hyperparameters.

Projects

BeauT - CTO | *JavaScript, Next.js, TensorFlow, OpenCV, React-Native* - [Landing Page](#)

September 2023 – May 2024

- Developed a responsive, SEO-optimized landing page in **JavaScript** and **Next.js**, improving user engagement.
- Led the development of a **React-Native** mobile app incorporating **ML**, **TensorFlow**, **OpenCV** for facial recognition, and **AR** for enhanced user interaction.
- Implemented **Firebase** for robust backend services, ensuring secure and efficient data and user interaction management.

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.

Extracurricular Activities

McGill Egyptian Student Association (ESA) — President

January 2023 – December 2023

Steered the association's strategic vision, fostering Egyptian cultural engagement within the university. Managed and collaborated closely with 6 executives to ensure seamless communication and optimal performance of sub-committees.