Amgad Elgamal

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Education

McGill University **Aug 2022 – Apr 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, Angular, Dart, 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 2025 – Aug 2025**

Software Engineering Intern *Seattle, WA*

- Architected and launched a full-stack, **real-time formula preview** feature using **Angular, Dart,** and backend RPCs, reducing formula validation latency from minutes to seconds and significantly improving user workflow efficiency.
- Engineered a novel **generative AI** tool to translate natural language into Google Ads formulas, pioneering a context-aware system that samples user data schemas to enhance LLM relevance through **multi-part prompt engineering.**
- Ensured production-level quality by implementing comprehensive unit, widget, and screenshot tests and authoring end-to-end **integration test** plans to validate the full data flow and prevent regressions.
- Authored two comprehensive design documents and presented project demos to cross-functional audiences of **40+ senior engineers**, **managers**, and **PMs**, driving feature adoption and incorporating feedback into the product roadmap.

Google **May 2024 – Aug 2024**

Associate Software Developer Intern *Waterloo, ON*

- Developed a **Google Chat SDK** with integrated **generative AI** capablities 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 upto **97%** 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 **Jan 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 – Aug 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

Cloudnerd | *TypeScript, React, TensorFlow , Firebase - Web App* **Jun 2022 - Jul 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.