George Saad

📞 647-544-5877 ✉ georgekysaad@gmail.com 💼 linkedin.com/in/gkysaad ⓞ github.com/gkysaad 🌐 georgesaad.tech

Education

University of Toronto	**Sep. 2023 – Jan. 2025**
MASc (Thesis-based), Research in LLMs & Recommendation supervised by Prof. Scott Sanner	*GPA: 4.0 (out of 4.0)*
University of Toronto	**Sep. 2019 – May 2023**
BASc in Engineering Science, Major in Machine Intelligence, Certificate in Engineering Business	*GPA: 3.76 (out of 4.0)*

Experience

Amazon — New York City, NY
Applied Scientist — *Mar. 2025 – Present*
- Implementing RAG-based LLM systems to deliver more personalized Ads, driving higher user CTR and revenue

University of Toronto — Toronto, ON
Research Assistant — *May 2023 – Feb. 2025*
- Researching LLM-integrated conversational recommenders to advance state-of-the-art recommendation at D3M Lab

Teaching Assistant — *Sep. 2021 – Dec. 2024*
- Teaching Assistant for Python, Data Science, Data Structures & Algorithms (in C), and Computer Systems courses

Amazon — Seattle, WA
Applied Scientist Intern — *Jun. 2024 – Sep. 2024*
- Developed a model to improve product search ranking by 29%, impacting over 8.5 million weekly queries on Amazon
- Implemented & tested production-ready code to allow the engineering team to integrate with Amazon's search engine
- Performed extensive prototyping, literature review, and evaluation to present to 50+ team members, including scientists

Vector Institute — Toronto, ON
Applied Machine Learning Intern — *Jan. 2023 – Sep. 2023*
- Evaluated causal inference estimators such as **TARNet** and **Dragonnet**, on data with no ground truth counterfactuals
- Led lectures & hands-on sessions on causal estimation & recommender systems for 200+ technical participants, including data scientists and executives from 40+ teams across major sponsors such as RBC, Deloitte, Shopify & Air Canada

Meta (Instagram) — Menlo Park, CA
Software Engineer Intern — *May 2022 – Jul. 2022*
- Built a **Thrift** service to track over 260M external Instagram links daily, improving Ads ranking signals
- Developed app detection in **Swift/Kotlin**, boosting ad impressions by 120% for unlinked users
- Optimized Instagram Ads endpoints in **Hack (PHP)** and **Python Django**, reducing runtime and memory overhead

Content Turbine — Mississauga, ON
Software Development Freelancer — *Dec. 2020 – Sep. 2021*
- Built NoSQL database & caching modules for Play!, Vert.x, & JHipster frameworks in **Java** using **Singleton** and **Dependency Injection (DI)** design patterns, with Guice and JUnit unit testing and ASCIIDOC documentation

Loblaw Digital — Toronto, ON
Software Development Co-op — *May 2021 – Aug. 2021*
- Researched & presented content targeting engine to the 40+ member PC Optimum team, increasing personalization
- Implemented multiple endpoints & metrics in **Spring Boot Java** with **GCP** with 200k+ data points collected per hour

Publications / Research

Q-STRUM Debate: Query-Driven Contrastive Summarization for Recommendation Comparison | Paper
G. Saad, S. Sanner - *arXiv 2025*

Elaborative Subtopic Query Reformulation for Broad and Indirect Queries in Travel Dest. Rec. | Paper
Q. Wen*, Y. Liu*, J. Zhang*, **G. Saad**, A. Korikov, Y. Sambale, S. Sanner - *ROEGEN @ RecSys 2024*

Multi-Aspect Reviewed-Item Retrieval via LLM Query Decomposition and Aspect Fusion | Paper
A. Korikov*, **G. Saad***, E. Baron, M. Khan, M. Shah, S. Sanner - *IR-RAG @ SIGIR'24*

Using Pre-Training to Speed Up Deep Reinforcement Learning | Paper
G. Saad - *University of Toronto Undergraduate Thesis, 2023*

* indicates equal contributions.

Technical Skills

Languages: Python, Java, JavaScript, C/C++, PHP/Hack, HTML/CSS, YAML, PostgreSQL, MATLAB
Technologies: PyTorch, JAX, Numpy, Pandas, Scikit Learn, Matplotlib, Spring Boot, React, Node, Flask, Django