George Saad

🌙 647-544-5877 🛛 g.saad@mail.utoronto.ca 🛅 linkedin.com/in/gkysaad 🕥 github.com/gkysaad 🌐 georgesaad.tech

Education

University of Toronto

MASc, Research in Conversational Recommender Systems supervised by Prof. Scott Sanner

University of Toronto

BASc in Engineering Science, Major in Machine Intelligence, Certificate in Engineering Business

Experience

University of Toronto

Research Assistant

• Working on integrating information retrieval and LLMs (such as GPT-4) with conversational recommender systems to improve the state-of-the-art in recommendation at Scott Sanner's Data Driven Decision Making (D3M) Lab

Teaching Assistant

• Teaching Assistant for: Introduction to Programming (ESC180) in Python, Algorithms & Data Structures (ESC190) in C

Vector Institute

Applied Machine Learning Intern

- Implemented metrics to evaluate the performance of causal inference estimators, including **TARNet** and **Dragonnet**, on synthetic datasets and observational 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 (Facebook)

Software Engineer Intern

- Designed **Thrift** service to add tracking to over 260 million external Instagram story and profile links per day
- Implemented client-side app detection feature which resulted in a 120% increase in ad impressions for Instagram users without linked Facebook accounts, resulting in a roll out to 100% of Instagram users
- Refactored key Instagram Ads endpoints in Hack (PHP) and Python Django to reduce runtime & memory overhead

Content Turbine

Software Development Freelancer

- Built NoSQL datastore and caching modules for the Akka Play! and Vert.x frameworks in Java using Singleton and **Dependency Injection (DI)** design patterns, and reactive programming, with Guice and JUnit unit testing
- Wrote ASCIIDOC documentation, created demo apps and wrote technical blog posts

Loblaw Digital

Software Development Co-op

- Researched & presented content targeting engine to the 40+ member PC Optimum team, increasing personalization
- Implemented tracking metrics in Spring Boot Java and GCP with 200k+ data points collected per hour
- Created multiple endpoints to reduce development and testing time by 60% for various parts of the PC Optimum product

Research / **Projects**

Pre-training to Speed Up Reinforcement Learning Thesis | Paper

- Researching methods to improve on the sample efficiency of reinforcement learning when using the A2C framework
- **DeepDixit** | Paper | PyTorch, CLIP, SIREN, BigGAN, Python Flask, React, SQL Jan. 2022 - Apr. 2022 • Built an image caption guessing game using SIREN + BigGAN based networks to create an image generator with a **CLIP-based** scoring function to fine tune the model based on text prompts

GPT-3 for Finance | Github | *GPT-3*, *Python*, *Flask*

- Fine-tuned **OpenAI's GPT-3** to fill a balance sheet using natural statements and created a **Flask** demo app
- Received 100,000 views, featured on InfoQ and on Y Combinator Hacker News

Open Source Contributions

JHipster Database Integration | Pull Request | Java, Spring Boot, Spring Data, NoSQL May 2021 - Jul. 2021

• Adding a popular NoSQL database service to JHipster, a project with over 20,000 stars and 156,000 monthly downloads

Technical Skills

Sep. 2019 - May 2023

Sep. 2023 – Present

GPA: 3.76 (out of 4.0)

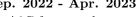
Mississauga, ON

Dec. 2020 - Sep. 2021

May 2021 - Aug. 2021

Sep. 2022 - Apr. 2023

Jul. 2020



Toronto, ON

Toronto, ON

May 2023 - Present

Sep. 2021 – Present

Menlo Park, CA





Jan. 2023 - Sep. 2023

Toronto, ON