

GEORGE SAAD

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Education

University of Toronto

Sep. 2019 – May 2023

Bachelor of Applied Science in Engineering Science

GPA: 3.77 (out of 4.0)

Major in Machine Intelligence, Certificate in Engineering Business (Anticipated)

Experience

University of Toronto

Sep. 2021 – Present

Teaching Assistant

Toronto, ON

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

Meta (Facebook)

May 2022 – Jul. 2022

Software Engineer Intern

Menlo Park, CA

- 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 and memory overhead

Content Turbine

Dec. 2020 – Sep. 2021

Software Development Freelancer

Mississauga, ON

- Built Couchbase 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

Loblaw Digital

May 2021 – Aug. 2021

Software Development Intern

Toronto, ON

- Research and presented the content targeting engine to the 40+ member PC Optimum team to enable other use cases
- Set up **GCP** metrics and dashboards for latency tracking across the **Spring Boot Java** backend, 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

FoodTrain

May 2020 – Dec. 2020

Lead Software Engineer Intern

Sunnyvale, CA

- Led a team of 10 developers to build full-stack MVP using **React Native**, **Node.js**, and **MongoDB** in under 6 months

Delovary

Mar. 2020 – Jun. 2020

Software Engineer Intern

Sunnyvale, CA

- Built a data science tool in **Python** to scrape and graph 900+ data points, reducing time for management by over 80%

Research / Projects

Pre-training to Speed Up Reinforcement Learning Thesis

Sep. 2022 - Present

- Researching the use of guided backpropagation to improve the sample efficiency in deep reinforcement learning

TripAdvisor Review Analysis | Pandas, Numpy, Vader, NLTK, Scikit Learn, Scipy

Nov. 2022

- Calculated review sentiment using **Vader** and visualized the data using histograms, heatmaps, scatterplots, and maps

DeepDixit | Paper | Demo | 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

micromalaria | Paper | ResNet, Python Flask

Sep. 2021 - Dec. 2021

- Fine-tuned a **ResNet** classifier to identify whether cell images were infected with malaria for an African health lab
- Achieved a 99% decrease in false positive rate from 19.4% to 0.16% and a 17.5% increase in accuracy from 80% to 94%

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

Jul. 2020

- 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 18,000 stars and 156,000 monthly downloads

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