

Gabriel Guralnick

linkedin.com/in/gabriel-guralnick | github.com/gnguralnick | gnguralnick@gmail.com

EDUCATION

UNIVERSITY OF TORONTO

HONORS BS: COMPUTER SCIENCE
AND COGNITIVE SCIENCE

Sept 2020 - Jun 2024 | Toronto, ON

Technology Leadership Initiative

Dean's List Scholar

cGPA: 3.98

SKILLS

PROGRAMMING

Java • Python • C/C++

HTML • CSS/SCSS

JavaScript/TypeScript

Haskell • Racket • R

TECHNOLOGIES

React • GraphQL

Express • Django

PostgreSQL • AWS

HuggingFace • LangChain

PyTorch • TensorFlow

LANGUAGES

English • Spanish

AWARDS

TRINITY COLLEGE

PROVOST'S SCHOLAR

2024

UNIVERSITY OF TORONTO SCHOLAR

2022-2023

JOHN AND GLADYS MILLER SCHOLARSHIP

Nov 2021

ROTMAN COMMERCE PROPTech HACKATHON

1ST PLACE

Mar 2021

WISCONSIN ACADEMIC EXCELLENCE SCHOLAR

Jun 2020

NATIONAL MERIT SCHOLARSHIP FINALIST

Feb 2020

MATHWORKS MATH MODELING CHALLENGE

3RD PLACE

Apr 2019

EXPERIENCE

TEACHING ASSISTANT: SOFTWARE DESIGN

UNIVERSITY OF TORONTO

Sept - Dec 2023 | Toronto, ON

- Aided professors in teaching students useful principles for the creation of large-scale full-stack software projects
- Helped teach students to use modern frameworks such as React, Express, and Django
- Mentored student groups as they created full-stack applications to solve problems posed by an industry partner

ASSOCIATE SOFTWARE DEVELOPER, INTERN

KONRAD GROUP

May - Aug 2022, 2023 | Toronto, ON

- Worked in a large, microservices-based development environment with Agile project management
- Implemented full-stack applications with large language models using retrieval augmented generation and agent frameworks for advanced functionality
- Developed multimodal machine learning pipelines (AI / ML) using segmentation, captioning, and language models for use in project management
- Performed research on LLM fine-tuning for enterprise applications
- Implemented new services and completed full-stack redesigns of existing services using GraphQL and React with MySQL and AWS integration

PROJECTS

SOCIAL LEARNING IN MULTI-AGENT SYSTEMS

Fall 2023 | [View Source and Report on Github](#)

- Collaborated with a professor and several peers to apply insights from research on social networks to multi-agent reinforcement learning
- Implemented and evaluated theoretical model of human social networks as a content market
- Investigated and benchmarked potential algorithms for encouraging social learning and collaboration in common multi-agent scenarios

CONTENT MARKET MODEL OF SOCIAL MEDIA NETWORKS

Fall 2023 | [View Source and Report on Github](#)

- Implemented model of social media networks as a content market
- Performed simulation of market optimization to evaluate theoretical claims
- Completed and reported extensive model parameter testing

FINE-TUNING STABLE DIFFUSION

Apr 2023 | [View Source and Report on Github](#)

- Evaluated the efficacy of LoRA, Textual Inversion, and Dreambooth for introducing new concepts to diffusion image generators
- Analyzed model output using CLIP and Frechét Inception Distance
- Performed literature review and constructed NeurIPS-formatted report

OPERATING SYSTEMS LIBRARY

Fall 2022

- Implemented a user-level threading library and simple file system in C
- Implemented a memory management library using page tables and swap algorithms to support execution of simple processes

GRIMM AUTOFINANCE

Fall 2021 | [View Source on Github](#)

- Created a React web application to help car buyers save time in the dealership
- Collaborated with industry partner with loan generation API to provide results