Ethan Kharitonov

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Education

- **University of Toronto**
  Computer Science Specialist, Mathematics Major; cGPA: 3.89/4.00 *September 2021 - April 2025*
  Fourth-year student
  Notable courses: *Algorithms and Complexity, Operating Systems, Intro to AI, Theory of Computation, Systems Programming in C, Software Design, Assembly, Real Analysis and Topology, Graph Theory, Number Theory, Abstract Algebra (Groups, Rings, Fields and Modules)*

Skills/Interests Summary

- **Professional interests**: Algebra, Theory of Computation, Category Theory, Real Analysis, Logic, Game Design, Cryptography, Graphics and AI
- **Languages**: C, C#, Python, Java, Kotlin, TypeScript, PostgreSQL, CSS, HTML
- **Frameworks**: React, React Router, AWS SDK and CDK, ASP.NET Core, Entity Framework, SignalR, Matplotlib
- **Tools**: GIT, LaTeX, Azure boards, Xunit, Pytest, Postman, Fiddler

Experience

Amazon
Software Developer Engineer Intern *June 2024 - Present*

- Migrated scripts onto **AWS Lambda** using **AWS CDK** written in **TypeScript** and **AWS SDK** written in **Kotlin**
- Designed an automated build and deployment pipeline using **AWS CDK**
- Learned how to idiomatically use the internal Amazon build and development tools

Ceridian
Full Stack Developer Intern *May 2023 - August 2023*

- Investigated and fixed bugs affecting 500+ clients in large **ASP.NET Core** and **React** applications using tools such as **SQL Server Profiler** and **Fiddler**
- Designed and implemented **CI/CD** pipeline using **Azure YAML**, saving 300+ hours of total time spent manually building and deploying
- Managed the environment of multiple **IIS** applications including build and deployment automation as well as site setup and configuration

May 2022 - December 2022

- Developed a productivity tool used daily by over 20 QA engineers to make running certain tests approximately 50 times faster
- Designed and implemented a **React** application using **React Router** and the **Material UI** component library
- Developed an API using **ASP.NET Core** and **Entity Framework**
- Implemented real-time updates in **React** using the **SignalR** library
- Deployed the API and **React** app to **IIS** using **Azure Pipelines**

Projects

Level Based Platformer Game
github.com/ethan-kharitonov/PASS4-Monogame

- A multi-level platformer game, developed using the **C# Monogame framework**, requires players to guide a character through collecting keys and gems en route to an exit
- Implemented basic physics and collision detection framework to allow mechanics such as believable player movement, pushing creates and various traps
- Developed a framework to easily design and add levels using a simple text file interface

Brick Breaker in Assembly
github.com/ethan-kharitonov/Brick-Breaker

- Classic brick breaker game implemented using the **MIPS** instruction set
- Included features such as keyboard and mouse I/O, sound effects and main menu screen
- Developed and implemented a basic collision detection algorithm

Real-time Social Network App

- A console based social media app written in **C**, designed to support simultaneous communication between **thousands** of users
- Implemented real time interactions using **TCP** sockets
- Designed various data structures to keep track of user data and interaction

Tweet Sentiment Analyzer
github.com/ethan-kharitonov/CSC110/tree/main/projects/covax

- Utilised the **Twitter API** to gather over 200,000+ tweets referencing vaccines in various contexts
- Employed the **NLTK** library for sentiment analysis in **Python** to determine whether tweets expressed criticism or approval of vaccines

Several other smaller projects written in C#, Python, Java and Javascript

- Propositional formula logic library, Maze generator, SHA256 implementation and a simple graphing calculator

Honors and Awards

- **The Roy Alvin Hope Scholarship:** Awarded based on academic performance during the first year of university.