

AMIR AFZALI

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EDUCATION

McMaster University - Hamilton, ON

Expected April 2023

Bachelor of Engineering, Software Engineering - CGPA: **3.8/4.0**

- Related Coursework: Data Structures & Algorithms, Operating Systems, Software Design, Computer Architecture

EXPERIENCE

Instagram

May 2022 – August 2022

Software Engineer Intern

New York, NY

- Eliminated **250 million+** failing media scoring operations across Instagram daily, by discovering and mitigating a distributed race condition within risk signal infrastructure, using **Hack** and **Scribe** messaging queue
- Overhauled real-time profile and media classifications by creating a new set of services for performing stream aggregation over windows and states of user action data, using **Python**

Snap Inc.

January 2022 – April 2022

Software Engineer Intern

New York, NY

- Designed and implemented authorization enforcement for Snap's distributed rate limiting service, achieving **~0.5 microsecond** end-to-end latency under **100k+ QPS** loads, using **Go**, **Redis**, and **Kubernetes**
- Launched rate-limiting support for long-term (> 1 hour) time windows by integrating persistent **Redis** clusters with high availability over **AWS** and **GCP**, allowing for expanded customer adoption and service growth

Facebook

August 2021 – November 2021

Software Engineer Intern

New York, NY

- Actively preventing over **\$1,000,000** in revenue loss per year by launching a new service that identifies significant spikes in faulty advertisement delivery and flags over **50** development oncalls, using **Python** and **Hack**
- Successfully backtested and identified **5+** historical **Sev2** revenue loss events up to **15 days** before actual incident discovery date, by designing a new monitoring strategy that tracks over **1200** Facebook ad rejection reasons

Akuna Capital

June 2021 – August 2021

Software Engineer Intern

Chicago, IL

- Expanded Akuna's trade risk monitoring by designing and implementing a new **Python** pipeline that transforms **25M+ Pandas** simulations daily and publishes real-time updates to **100+** traders and analysts
- Launched a new service for live volatility monitoring by computing and visualizing the market volatility curves of **2500+** traded securities, comparing them against trader parameter curves, and flagging large discrepancies

McMaster University

September 2020 – April 2021

Undergraduate Teaching Assistant

Hamilton, ON

- Taught the empirical analysis of runtime and space complexity for various data structures and algorithms
- Led weekly labs and performed code walkthroughs for algorithm implementation in **Python** and **Java**
- Automated the marking of **200+** student coding assignments through unit testing with **Pytest** and **JUnit**

Loadlink Technologies

June 2020 – August 2020

Software Engineer Intern

Toronto, ON

- Developed a real-time notification delivery API to drive **250k+** push notifications per day, using **.NET** and **Redis**
- Independently created an **Angular** web app to prototype two-way communication through **SignalR** WebSockets
- Minimized the size of web notification payloads by up to **75%** by implementing a key-based message retrieval API

LEADERSHIP

DeltaHacks

May 2019 – June 2021

Technical Lead

Hamilton, ON

- Managed a team of **8** developers and organized a university hackathon of over **850** participants
- Led the development of full stack apps for the attendee and judging platforms, facilitating the submission and marking of over **4000** unique applications, using **TypeScript** and **Firebase**

TECHNICAL SKILLS

Languages: Python, Go, Java, TypeScript, C++, HTML, CSS

Technologies: Node.js, Flask, Kubernetes, Redis, MySQL, MongoDB, Firebase, Bash, React, Express.js