Simhon Chourasia

University of Waterloo | Computer Science

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Education

University of Waterloo

Bachelor of Computer Science - Honours with Co-op *September 2020 - May 2025*

- Relevant coursework: Object-Oriented Software Development, Data Structures and Data Management, Statistics, Computer Design, Logic and Computation, Advanced Functional Programming
- **GPA: 3.99** (94.4% cumulative)

Languages and Technologies:

Languages: Python, C++, Java, Go, JavaScript, HTML, CSS, SQL, R, Scheme
Tools and Frameworks: React, Node, MongoDB, Express, Git, GCP (Digital Leader Certification), AWS
Data Science and Machine Learning: TensorFlow, scikit-learn, Matplotlib, NumPy, pandas

Experience:

Intel

Software Engineer Intern *September 2022 - December 2022*

- Proposed, presented, and implemented modifications to router flow saving **7.4%** of FPGA compilation router time on representative CPU emulation designs and a decreased runtime of up to **44%** on client-provided designs
- Architected a new **C++** framework to allow developers to easily add new FPGA families to the routing flow, significantly reducing router developer workload for testing and supporting routing next-generation FPGA chips
- Wrote **Python** scripts to scrape large sets of FPGA compilation data, created visualizations using **matplotlib**, and investigated runtime profiles to help guide the team on opportunities to save compilation runtime

Wish

Software Engineer Intern *January 2022 - April 2022*

- Created linting rules to automatically check localization requests, eliminating over **11.6%** of translation issues
- Overhauled localization data request flow to support asynchronous updates for localization microservice using **AWS** SQS, reducing impact of Docker container failure by eliminating the need for manual updates
- Developed **gRPC API** in **Python** to convert and localize currencies, as well as a corresponding admin tool in **React**
- Added **Prometheus** metrics and alarms for localization request extraction and overhauled **Grafana** dashboards

Huawei Technologies Canada

Big Data Platform Engineer *May 2021 - August 2021*

- Led support for internal and user-defined functions in queries and engineered process for external developers to easily add new functions to be used in SQL queries using LLVM, saving over **90%** of function runtime
- Designed and implemented ease-of-use features for users and external developers to connect the OpenLooKeng SQL engine to other databases by sending queries in JSON format, allowing usage of high-performance **C++** backend
- Increased query processing speed on TPC-H benchmarks by over **30%** compared to previous solution

Projects

1) Industry Baby: Album Inspiration |

- Created a generative adversarial network and a recurrent neural network to generate album art and song titles and used the model in a web app using **React** for the frontend and **Flask** for the backend

2) TFuse: Tweet sentiment analyzer |

- Created and trained an NLP model with **TensorFlow** and Google's Universal Sentence Encoder in **Python** to perform sentiment analysis on a dataset of **1 million** tweets, winning 2nd place at Ignition Hacks 2020.