Simhon Chourasia

University of Waterloo | Computer Science

s2choura@uwaterloo.com | simhonchourasia | simhonc

Languages and Technologies:

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

Experience:

Wish

Software Engineer Intern — *January 2022 - April 2022*

- Worked on internationalization infrastructure and tools in **Python**, **Go**, and **React** to help make Wish accessible across 60 countries
- Developed **gRPC API** in **Python** to convert and localize currencies, along with an admin tool in **React** to show currency formatting
- Consolidated changes across monolithic Python repository and microservices to assist in code decentralization efforts
- Integrated **GoLang** backend with Slack to send notifications upon detection of localization errors to improve manager workflow
- Created linting rules to ensure that localization requests are being made properly, helping eliminate over **11.6%** of translation issues
- Used **AWS SQS** to implement asynchronous updates of localization data, eliminating the need for manual updates upon container failure
- Added key metrics and alarms for localization request extraction using **Prometheus** and overhauled related **Grafana** dashboards
- Wrote unit/integration tests across several repositories using GoMock and Python unittest libraries to achieve >90% code coverage goals

Huawei Technologies Canada

Big Data Platform Engineer — *May 2021 - August 2021*

- Made significant contributions to the backend of the OpenLooKeng SQL engine in **C++** and **Java** using the LLVM compiler infrastructure
- Developed parsing and interpreting algorithms to handle filter and selecting in **SQL** queries by traversing an expression tree
- Designed and implemented ease-of-use features for users and external developers to connect the engine to other databases by sending queries in JSON format; integrated changes across C++ and Java code bases
- Implemented handling for internal and user-defined functions in queries and created process for developers to easily add new functions
- Wrote exhaustive unit, regression, and integration tests for query processing code using testing libraries in CI/CD **Jenkins** pipeline
- Increased query processing speed on TPC-H benchmarks by over **30%** compared to previous solution

Ryerson University

Data Science/Machine Learning Researcher — *June 2019 - September 2019*

- Cleaned large datasets, visualized data, and performed data mining with **NumPy**, **pandas**, **Matplotlib**, and **Seaborn**
- Created predictive machine learning models with **Python** using the **scikit-learn** library (neural network, SVM, k-nearest neighbours)
- Researched the effects of team dynamics on university group project performance

Projects

1) FoodFinder: Restaurants for everyone |

- Developed a web application using the **MERN stack** to help people decide where to eat by swiping (like in Tinder) on restaurants with their friends, and choosing restaurants which appeal to everyone in a friend group
- Scraped data for nearby restaurants using the Yelp API and stored information in a **MongoDB** cloud database
- Used **React** (with hooks) to create responsive web design, and used **Express/Node** to make **API** calls

2) Industry Baby: Album Inspiration |

- Trained a generative adversarial network on a dataset to generate album covers, and a recurrent neural network to generate song titles
- Developed web application using **React** frontend and **Flask** backend to generate album covers and song titles
- Fine-tuned models and performed post-processing to achieve more convincing generated samples

3) TFuse: Tweet sentiment analyzer - Second place winner at Ignition Hacks 2020 |

- Created and trained a natural language processing model with **TensorFlow** and Google's Universal Sentence Encoder in **Python** to perform sentiment analysis on a dataset of **1 million** tweets
- Performed preprocessing, word vectorization and sentence embedding, and then created, trained, and tuned the model

Education

University of Waterloo

Candidate for Bachelor of Computer Science - Honours with Co-op — *September 2020 - Expected 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** (94.7% cumulative)