

Technologies Used

Programming Languages: C/C++, Java, Go, Python, TypeScript, R, C#, MATLAB, SQL

Frameworks & Tools: PyTorch, TensorFlow, Keras, BigQuery, pandas, git

Work Experience

Google, Software Engineering Intern [SQL Pipelines] May 2020 – Sept 2020

- Worked on a system for monitoring and debugging the various pipeline technologies at Google
- Architected and implemented pipeline data ingestion, and built out frontend components

Google, Software Engineering Intern [Anti-Malvertising] Sept – Dec 2019

- Developed and deployed a data pipeline and gRPC service to fingerprint webpage technologies and proactively detect security vulnerabilities in ads' landing pages
- Implemented aggregation functions to evaluate click impact of blacklisting advertiser IPs

Imply, Database and Distributed Systems Engineering Intern Jan – Apr 2019

- Contributed [~20 features and patches](#) to the open-source Apache Druid database, including time-based ordering for streaming SELECT queries, Kinesis de-aggregation, and ingestion monitoring

Toast, Software Engineering Intern [Payments Core] May – Aug 2018

- Worked on infrastructure and services for credit card payment processing
- Developed tooling for identifying data synchronization issues

Lytx, Software Engineering Intern Jan – Apr, Aug – Dec 2017

- Implemented JWT auth for Lytx Video Services' web application and RESTful API
- Designed a geohash indexing system and developed a proof-of-concept web application that supports sub-second geospatial queries on terabytes of GPS data

Research and Volunteer Work

Waterloo Configurable Architectures Group [Prof. Nachiket Kapre] Sept 2020 - Present

- Currently investigating algorithms for FPGA floor planning of systolic arrays for accelerating ML inference

UWaterloo Data Systems Group [Prof. Jimmy Lin] Sept 2020 - Present

- Currently researching neural rankers for information retrieval

UWaterloo, Undergraduate Research Assistant [Prof. S.M. Zahedi] Jan - Apr 2020

- Investigated using reinforcement learning and autoencoder neural networks to tune resource allocation for collocated datacenter workloads using hardware-level metrics

UW Blueprint, VP Projects and VP Talent Sept 2019 – Apr 2020

- Led a team of 32 developers in building technological solutions for Waterloo-area non-profits

Education

UWaterloo, B.A.Sc in Mechatronics Engineering w/ Option in AI, Class of 2021 cGPA: 86%

- Recipient of the Arthur F. Church Engineering Entrance Scholarship, UW President's Scholarship, Professional Engineers Ontario Scholarship