JUSTIN BORROMEO

justborromeo@gmail.com
github.com/justinborromeo | (647) 460-0061

Education

University of Waterloo, B.A.Sc in Honours Mechatronics Engineering w/ Option in AI cGPA: 86%

Arthur F. Church Engineering Entrance Scholarship, UW President's Scholarship, Professional Engineers Ontario Scholarship

Work Experience

Google, Software Engineer May 2021 – Present

Google, Software Engineering Intern [SQL Pipelines] · *C++, Java, Angular (TypeScript)* May – Sept 2020

- Worked on a unified system for monitoring and debugging Google's data pipelines
- Architected and implemented pipeline data ingestion, and built out frontend components

Google, Software Engineering Intern [Anti-Malvertising] · *C++, Java, SQL* 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 · *Java, SQL* 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] · *Java, SQL* May – Aug 2018

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

Lytx, Software Engineering Intern · *ASP.NET (C#), JavaScript* Jan – Apr, Aug – Dec 2017

- Implemented JWT authorization for Lytx Video Services' web application and RESTful API
- Built a proof-of-concept web app that supports low-latency exploration of TBs of geospatial vehicle data

Research

UWaterloo Centre for Theoretical Neuroscience [Prof. Bryan Tripp] · *Python, PyTorch* Jan 2021 – Present

- Currently researching biologically-grounded neural network architectures for Imagenet classification

UWaterloo Data Systems Group [Prof. Jimmy Lin] · *Python, PyTorch* Sept 2020 - Present

- Currently researching methods of scientific fact verification
- Led work on scientific question answering using T5 re-rankers; placed first in the consumer track of the Epidemic Question Answering challenge; presented system at the 2020 Text Analysis Conference Workshop

Waterloo Configurable Architectures Group [Prof. Nachiket Kapre] · *Python, R* Sept 2020 – Present

- Working on algorithms to partition systolic arrays for faster FPGA convolutional neural network inference

UWaterloo, Undergraduate Research Assistant [Prof. S. M. Zahedi] · *C, Python, PyTorch* Jan - Apr 2020

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