

JEREMY CHEN

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EDUCATION

University of Waterloo

Candidate of Master of Mathematics in Computer Science 2018 - Present

Bachelor of Computer Science, Co-operative Program 2013 - 2018

- Advanced Distributed Systems, Computer Networking, Database Management, Applied Cryptography

WORK EXPERIENCE

Software Engineering Intern

Jan. 2018 - Apr. 2018

Uber - Advanced Technologies Group

- Designed and implemented a system that keeps track of the pipeline status, metadata, and releases of the autonomous vehicle (AV) maps, which scales the tracking of AV map production by a factor of at least 10
- Implemented tracking service APIs to integrate the new tracking system into existing AV map system

Software Developer

Jan. 2017 - Apr. 2017

SAP - Query Processing Team

- Enhanced partition pruning algorithm to improve the performance of query processing in SAP HANA database by a factor of 5 with parametrization (patent filed and paper published)
- Implemented SQL grammar rules to utilize data statistics objects for different types of tables

Full Stack Developer

Apr. 2016 - Aug. 2016

Miovision Technologies Inc.

- Implemented 80% of the MVP of a real-time organizational management system using Node.js, React, and MongoDB

RESEARCH EXPERIENCE

Undergraduate Research Assistant

Graphflow, University of Waterloo

May 2018 - Present

- Design mechanisms to estimate cardinality of path queries in a graph database to produce good execution plans

Shortest Path, University of Waterloo

Sept. 2016 - Jan. 2017

- Prototyped database indices for processing shortest path queries on large graphs with billions of edges using Java

PUBLICATIONS

Global Range Encoding for Efficient Partition Elimination @ EDBT

Mar. 2018

Partition pruning algorithm designed and prototyped at SAP

Graphflow: An Active Graph Database @ ACM SIGMOD

May 2017

A graph database supporting continuous queries (graphflow.io)

PROJECTS

SocialVR - PennApps XV: visualization of personal Facebook life events and photos in Google Cardboard VR

ARnance - Best FinTech Award in Hack Western 3: rendering AR financial dashboard when scanning company logos