www.cs.toronto.edu/~gxyu gxyu@cs.toronto.edu

#### **Research Interests**

Computer Systems, Distributed Systems, Large-scale Data-intensive Computing, Systems for Machine Learning

### **Education**

Candidate for Master of Science in Computer Science (MSc, Research-stream) 2018 – 2020 (expected)
University of Toronto Toronto, ON

• Advisor: Gennady Pekhimenko, EcoSystem Group (Computer Systems and Networks)

### **Bachelor of Software Engineering (BSE)**

2013 - 2018

University of Waterloo

Waterloo, ON

- 94.65% Cumulative Average, Graduated with Distinction and on the Dean's Honors List
- The Software Engineering program focuses on both Computer Science and Computer Engineering

## Peer-reviewed Contributions

### TBD Suite: Benchmarking and Profiling Tools for DNNs.

<u>Geoffrey X. Yu</u>, Hongyu Zhu, Anand Jayarajan, Bojian Zheng, Abhishek Tiwari, and Gennady Pekhimenko. Demonstration Track of the Conference on Machine Learning and Systems (MLSys), 2019. Non-archival.

# Teaching Experience

### **Teaching Assistant**

CSC 209 - Software Tools and Systems Programming

University of Toronto Fall 2018, Winter 2019

# Professional Experience

### Facebook

Menlo Park, CA

Software Engineering Intern September – December 2017

- Utilized C++ to develop a new queuing service for the Async Tier—Facebook's asynchronous job execution platform, responsible for handling tens of millions of jobs per minute.
- Designed and implemented a mechanism to reschedule failed jobs, requiring development across new and legacy infrastructure services on the Async Tier.
- Improved operational efficiency by implementing scripts to facilitate database shard management.

### **Facebook**

Menlo Park, CA

Software Engineering Intern January – April 2017

- Implemented robust Java code diagnostics for Nuclide, enabling Java editing support for massive projects with over 60,000 source files.
- Engineered and developed Nuclide's Java type resolution mechanism, which was capable of handling source code files with more than 10,000 transitive dependencies.
- Added partial rendering to the Nuclide console, increasing the number of entries that could be retained in the user interface by 20 times.

## **Apple**

Software Engineering Intern May – August 2016

Cupertino, CA

- Contributed to Apache Cassandra to improve disaster recovery across data centers.
- Prototyped a Cassandra partition blacklisting mechanism in Java to support over 115,000 nodes in production.
- Improved Cassandra timeout enforcement and introduced custom per-query timeouts
- Enhanced Cassandra error handling to enable error propagation from replica nodes to clients.

Software Engineering Intern September – December 2015

Mountain View, CA

- Developed a near real-time course tracking tool by leveraging Scala, Kafka, and JavaScript with React—providing an aggregate view of over 1700 courses on Coursera.
- Wrote a scheduled job in Scala to validate user role invariants across multiple data stores.
- Utilized Scala and JavaScript with React to build a suite of administrative course editing tools end-to-end, replacing legacy tools that lacked comprehensive validations.

Coursera Mountain View, CA Software Engineering Intern January – April 2015

- Engineered robust course authoring tools using React and Flux that were made available to over 100 Coursera partner institutions.
- Built the front end for an instructor to learner mass email communication tool. This tool has been used to send out over 800,000 emails.

### Milq (now Layer 6, acquired by TD Bank Group) Toronto, ON

Full Stack Software Engineering Intern May – August 2014

- Developed the tag page—an aggregation of content about a specific hashtag.
  - Engineered scalable data API endpoints in Node.js using Redis and MongoDB to deliver matched content to the tag page.
  - Developed functionality that fetched, resized, and stored video thumbnails into an Amazon S3 bucket for new and existing content added to Milq.

### Awards and Honors

### • NSERC Canada Graduate Scholarship - Master's

2019 - 2020

National merit-based master's research scholarship awarded by the Government of Canada (17,500 CAD).

- Snap Research Scholarship January 2019
  Awarded by Snap Inc. for research quality, technical skills, and communication skills (10,000 USD).
- Vector Institute Scholarship in Artificial Intelligence 2018 2019 Awarded to top students pursuing AI-related master's studies in Ontario (17,500 CAD).
- Queen Elizabeth II Graduate Scholarship in Science and Technology 2018 2019 Merit-based scholarship awarded to students pursuing graduate studies in Ontario (15,000 CAD).
- Wolfond Fellowship, University of Toronto

  Awarded at the University of Toronto for academic achievements (10,000 CAD).
- Sandford Fleming Foundation Award for Academic Excellence

  June 2018

  Best graduating academic record in the Software Engineering program at the University of Waterloo.
- University of Waterloo Faculty of Engineering First in Class Award May 2017 Highest term average in the Software Engineering program at the University of Waterloo (Fall 2016).
- Wish Scholarship, University of Waterloo January 2016

  Awarded by the University of Waterloo based on academic merit.
- University of Waterloo Faculty of Engineering Upper Year Scholarship May 2015

  Awarded by the Faculty of Engineering at the University of Waterloo based on academic merit.
- **Software Engineering Entrance Scholarship, University of Waterloo** September 2013 Awarded to first year Software Engineering students based on academic and extracurricular achievements.
- University of Waterloo President's Scholarship of Distinction

  Awarded to undergraduate students with an admissions average of 95% or greater.
- Toronto District School Board Top Scholar

  Highest high school graduating average in the Toronto District School Board (Toronto, ON).