
Education

- Sept 2013 – May 2017 **University of Toronto, Toronto, ON**, Bachelor of Science, Computer Science.
- Specialist in Computer Science (focus in Theory of Computation), minor in Mathematics.
 - McNab Undergraduate Scholarship Award, Dean's List 2013 – 2017. GPA: 3.92/4.0

Experience

- Oct 2017 – Present **Rubrik, Palo Alto, CA**, Software Engineer, Cloud Archival.
- Developed primarily in Scala for the Cloud Archival team, part of the core data engine (Cerebro), designing scalable systems for enterprise data management across on-premises and cloud deployments.
 - Led end-to-end design and development of Smart Tiering for Azure, a novel mechanism providing 3x or greater cost savings for cloud storage by optimizing costs across storage tiers, while maintaining incremental backup chains. Led a team consisting of myself and two other engineers.
 - Designed and developed method for optimizing cloud data via chain reversal on AWS and Azure.
 - Redesigned core components of archival jobs to improve stability and performance when scaling to very large workloads (e.g. PB-scale NAS shares) backed by Cassandra and CockroachDB.
 - Worked closely with customers and product management to design solutions that meet enterprise customers' unique business needs.
 - Provided technical mentorship for several interns and full-time engineers on the Archival team.
- May 2017 – Aug 2017 **Rubrik, Palo Alto, CA**, Member of Technical Staff Intern, Cloud Archival.
- Added support for data archival to cold storage using Amazon Glacier with Vault Lock, providing cost-effective long-term data retention policies for legal compliance.
 - Designed efficient parallel data encryption methods for multithreaded archival uploads.
- May 2016 – Aug 2016 **Facebook, Seattle, WA**, Software Engineering Intern, Video Search.
- Created a news videos search results module, and developed models to improve video results ranking for newsy search queries.
 - Leveraged video subtitles, generated via speech recognition, to improve video retrieval and ranking.
- May 2015 – Aug 2015 **Google, Mountain View, CA**, Software Engineering Intern, Risk Engineering.
- Developed in Java, using machine learning and statistical analysis to detect payment fraud.
 - Researched, developed methods for feature selection, data preprocessing and model training to automate training of lightweight models for low-latency fraud classification.
 - Adapted decision tree learning algorithms to leverage data parallelization via MapReduce.
- Sept 2014 – May 2017 **University of Toronto, Toronto, ON**, Teaching Assistant.
- Led tutorials and labs, performed grading duties for assignments, projects, and exams.
 - TA for CSC207 Software Design (2 semesters); CSC263 Data Structures and Analysis (3 semesters); and CSC373 Algorithm Design, Analysis & Complexity (1 semester, advanced section).

Selected Projects and Extracurriculars

- Apr 2017 **hasp**: A parser and interpreter for a lisp-like programming language, written in Haskell.
- Jan 2017 PennApps hackathon project: **Paper2L^AT_EX**, a tool for automatically recognizing and generating LaTeX code for graph structures based on hand-drawn images. Placed in top 30 hacks.
- Sept 2016 – May 2017 Research project in Algorithm Design: Parallel auction-based algorithms in MapReduce for the Earth Mover's Distance problem (minimum-cost geometric bipartite matchings), with Aleksandar Nikolov.
- Jan 2016 – May 2016 Research project in Computational Complexity Theory: Branching program size lower bounds for the Tree Evaluation Problem, to separate log space from polynomial time, with Steve Cook & David Liu.
- Apr 2016 Visual speech recognition (automatic lip reading) from video using hidden semi-Markov models.

Skills

- Languages Fluent in Scala, Python, Java, C, PHP, HTML/CSS. Familiar with Haskell, C++, JavaScript, TypeScript, Racket, MATLAB.
- Tools & Technologies Cloud Storage and Computing, Algorithm Design, Distributed Computing, Machine Learning, Natural Language Processing, Information Retrieval, MapReduce, Android, Angular, Linux/Unix development.