

Alice Ran Zhou

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AREAS OF EXPERTISE

Languages & Frameworks: C++, Java, Scala, Python, Hadoop, MapReduce, Spark, SQL, Zookeeper, Maven, Git

WORK EXPERIENCE

Google, *Display Ads Quality – Cross Device*, Software Engineering Intern May – Aug. 2017

- Designed and implemented finer-grained segmentation for cross-cookie link discovery ratio calculations
- Optimized segmentation to only compute meaningful dimensions through data analysis
- Reduced link storage by 22% while maintaining neutral revenue impact

Bloomberg, *Listed Derivatives Real-Time*, Financial Software Developer Intern Sept. – Dec. 2016

- Architected and implemented a real-time system that reflects market sentiment on binary events
- Integrated a quantitative model that performs calculations with option market data
- Designed a front end that presents relevant graphs to allow clients make informed decisions

LinkedIn, *Distributed Graph*, Software Engineering Intern Jan. – Apr. 2016

- Researched and experimented with graph partitioning heuristics for the next-generation graph database
- Extended in-house Prolog-like query language to support keyword arguments
- Drove discussion and implementation of how to represent the absence of data

Square, *Payment Products*, Software Engineering Intern May – Aug. 2015

- Designed and implemented a deposit reconciliation system to ensure that money is correctly transferred
- Managed concurrency issues between the settlement pipeline and sharding job with ZooKeeper
- Batch-loaded data to avoid nested transactions and reduced latency by 50%

PROJECTS / RESEARCH

Graph Database Benchmarking, *University of Waterloo*, Research Assistant May 2016 – May 2017

- Simulated real-time, streaming behavior of transactional workloads via a Kafka-based update mechanism
- Provided a Gremlin reference implementation for LDBC SNB Interactive Workload queries
- Paper published in GRADES: <http://dl.acm.org/citation.cfm?id=3078459>

Warcbase, *University of Waterloo*, Research Assistant Sept. – Dec. 2015

- Built a fluent interface in Scala to make Spark data analysis accessible for digital historians
- Analyzed and visualized web archive link connections with Python and D3.js
- Paper published in JOCCH: <http://dl.acm.org/citation.cfm?id=3097570>

EDUCATION

University of Waterloo, Bachelor of Computer Science, 3.91 cumulative GPA 2014 – 2019 (expected)

- **Select coursework:** Big Data Infrastructure, Algorithms, Operating Systems, Models of Computation
- **Awards:** Scotiabank Software Engineering Entrance Scholarship, 2014 – 2017
 - Waterloo's largest engineering scholarship (\$20 000), awarded for student excellence

Associate of the Royal Conservatory practical piano diploma, Royal Conservatory of Music 2012