RIDWAN SHARIF

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SKILLS

- · Experienced with Go, C, C++, Ruby, Python, Lisp, SQL; Rails, Docker, and gRPC
- · Interested in distributed systems, databases, infrastructure, backend, performance and systems design

WORK EXPERIENCE

May - Aug '19 Cockroach Labs

Backend Engineering Intern (SQL Optimizer)

New York, NY

- · Worked on query compilation, transformation and optimization of joins, limits, indexes, and more
- · Incorporated segmented sort and look-up joins into the optimizer to improve query performance
- · Implemented index-skip-scans to improve index scan performance by an order of magnitude
- · Leveraged check constraints to create rules that plan partition look-ups instead of full table scans
- · Expanded the Cockroach SQL suite to include multi-table mutations and ordered aggregations

Sep - Dec '18 Cockroach Labs

Backend Engineering Intern (Storage/Performance)

New York, NY

- · Designed and implemented load based splitting to replicate and distribute ranges of data across nodes
- · Improved overall read/write throughput by over 60% and reduced end-to-end latency by over 45%
- · Added transactional request ordering, savepoints and idempotency to solve the Halloween Problem
- · Improved the data placement model for more granular of control geo-partitioning and data compliance

Shopify Jan - Apr '18 Ottawa, ON

Production Engineering Intern (Infrastructure)

- · Led multiple engineering initiatives outlining measures to improve observability across Shopify
- · Added instrumentation around reporting mechanisms, cluster health, performance metrics and SLOs to the incident response system – featured on the Shopify engineering blog

NCR Corporation

May – Aug '17

System Software Engineering Intern (Infrastructure)

Waterloo, ON

- · Designed a NIST compliant password manager to manage private credentials for multiple teams
- · Used throughout the infrastructure division across multiple teams, saving ~18,000 USD annually

RESEARCH

uWaterloo Database Systems Group

May - Aug '18

Undergraduate Researcher (Prof. Grant Weddell)

Waterloo, ON

· Researched main-memory databases that use dynamic code-generation as part of its execution model

PROJECTS

- · raft Implemented a fault tolerant and performant distributed consensus algorithm resilient to lossy networks, network partitions and node failures — based on Diego Ongaro's thesis paper
- · mqueue Constructed an in-memory Kafka-esque message broker in Go over an HTTP API

Other notable projects: lispy, gcache, go-workerpool, pRSA, fzysearch, airport

EDUCATION

University of Waterloo

Sept '16 – Apr '21 (expected)

Bachelors of Computer Science, Honours

· UW Robotics Club, Hack the North (2017, 2016), President's Scholarship (95th percentile)