

# RIDWAN SHARIF

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## SUMMARY

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- Experienced with distributed systems, databases, operating systems, infra, performance and backend
- Proficient in Go, C, C++, Ruby, Python, Lisp, Java, SQL; Rails, Docker, and gRPC

## WORK EXPERIENCE

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**Google** Sunnyvale, CA (remote)  
*Backend Engineering Intern (gVisor)* May – Present

- Working on expanding the gVisor kernel by supporting Linux compatible sandboxed FUSE filesystems
- Designed and implemented the FUSE protocol, device driver, kernel module and filesystem syscalls

**Postmates** San Francisco, CA  
*Platform Engineering Intern (Delivery as a Service)* Jan – Apr '18

- Built the DaaS invoicing and billing system, reducing unrecoverable debt by **\$50,000+** annually
- Architected the debt collection service by integrating with BigQuery, GCS, Square, Shopify, and Stripe

**Cockroach Labs** New York, NY  
*Backend Engineering Intern (SQL Optimizer)* May – Aug '19

- Worked on query compilation, transformation and optimization of joins, limits, indexes and more
- Added support for multi-table mutations, ordered aggregations, segmented sort and look-up joins
- Implemented index-skip-scans to improve index scan performance by an order of magnitude

*Backend Engineering Intern (Distributed SQL)* Sep – Dec '18

- 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

**Shopify** Ottawa, ON  
*Production Engineering Intern (Infrastructure)* Jan – Apr '18

- Led multiple engineering initiatives outlining measures to improve observability across Shopify
- Built incident report and cluster health tooling that featured on the Shopify engineering blog

**NCR Corporation** Waterloo, ON  
*System Software Engineering Intern (Infrastructure)* May – Aug '17

- Designed a NIST compliant password manager used by multiple teams saving **\$18,000+** annually

## EDUCATION

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**University of Waterloo** Sept '16 – Apr '21 (expected)  
*Bachelors of Computer Science, Honours (Faculty of Mathematics)*

## RESEARCH

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**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

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- **raft** – A performant distributed consensus algorithm; 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**