

RIDWAN SHARIF

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SKILLS

- Proficient in Go, C, C++, SQL, Python, Scheme/Racket and Bash
- Interested in application security, cryptography, systems design and systems engineering

WORK EXPERIENCE

NCR Corporation

May – Aug '17

Infrastructure

Waterloo, ON

- Designed a NIST compliant password manager to manage private credentials for multiple teams
- Implemented all components of the LDAP aware vault – security protocols (end-to-end encryption, SSL, RSA-2048, SHA-256), the database storage layer, and the client interfaces (CLI, web, etc.)
- Saved ~18,000 USD annually. Used across the infrastructure division, over multiple teams/offices
- Shouldered an operational role with cluster maintenance, ACL management, audit trails, and malware protection (WannaCry). Closely worked with VRA and VMware technologies

PROJECTS

raft

git.io/v59cj

- Implemented Raft, a fault tolerant & performant distributed consensus algorithm resilient to network partitions and node failures. Based implementation on Diego Ongaro's [thesis paper](#)
- Designed log truncations, replications, snapshots, and leader elections to manage replicated state machines over lossy networks
- Used protocol buffers with gRPC for the underlying RPC subsystem, implemented entirely in Go

mqueue

git.io/vMKXe

- Constructed an in-memory Kafka-like message broker in Go over an HTTP API
- Designed a concurrent, thread-safe publisher/subscriber architecture with multiple topics
- Built an embeddable client library in Go to interface with the API

lispy

git.io/vyfVt

- Built a robust Scheme/LISP interpreter in Python based on Peter Norvig's implementation
- Implemented tokenization, parsing, and code validation using abstract syntax tree construction
- Added facilities for lexical scoping, errors, abstract list functions, and user defined data structures

cache

git.io/v5tmR

- Implemented a caching service storing binary blobs using gRPC, built to support multitenancy, client & server interceptors, streams and dry run functionalities complete with TLS support. Please help.

Other notable projects: **go-workerpool**, **pRSA**, **fzysearch**, **airport**

EDUCATION

University of Waterloo

Sept '16 – Apr '21 (*expected*)

Bachelors of Computer Science, Honours

- Hack the North (Volunteer), UW Robotics Club, President's Scholarship (95th percentile)
- Selected Courses: Algorithm Design, Functional Programming, Object Oriented Programming, Combinatorics & Optimization, Logic & Computation