# IRFAN SHARIF

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#### SKILLS

- · Experience with distributed systems, storage engines, and systems architecture
- · Go, Haskell, Ruby, C/C++, Python with working knowledge of Git, Redis, Docker, and NGINX

#### WORK EXPERIENCE

#### Cockroach Labs, Inc.

Aug – Dec '16

Backend Engineering Intern

New York, NY

- · Constructed the distributed, parallel query processing engine for CockroachDB (git.io/vMKFV)
- · Implemented distributed sort algorithms and parallel aggregations for data analytics workloads
- · Designed distributed row de-duplication and highly performant n-way parallel SQL joins
- · Improved existing SQL join performance by an order of a magnitude using in-memory hash tables

**Shopify**Production Engineering Intern

Jan – Apr '16

Ottawa, ON

- · Designed a dynamic and flexible continuous integration system with auto-scaling build agents
- · Built infrastructure to support dynamic workload distribution across multiple agents
- · Optimized the scheduling system to handle 1,000+ builds per day saving 60,000 USD per month

Solink May – Sept '15

Software Engineering Intern

Kanata, ON

· Decomposed a single monolith platform into inter-connected, resilient microservices

### RESEARCH

# uWaterloo Computer Aided Reasoning Lab

Sept – Dec '15

Researcher

Waterloo, ON

- · Researched under Prof. Vijay Ganesh on Boolean SAT solvers and optimizing search strategies
- · Independently discovered a parallelization algorithm by clustering related SAT clauses

#### **PROJECTS**

CFilter git.io/v6GkV

- · Implemented the Cuckoo Filter paper, a probabilistic data structure for set-membership queries
- · Trended on the front page of HackerNews with 14,000+ page views and 500+ stars on Github

Gossip git.io/vMrE9

- · Embeddable distributed gossip networks based on the SWIM paper, using gRPC and protobufs
- · Eventual consistency model, resilient to partial failures through dissemination protocols

## **EDUCATION**

#### University of Waterloo

Sept '14 – Apr '19 (expected)

Honours Bachelor of Applied Science in Computer Engineering

GPA 3.7

- · Class Representative, President's Scholarship, Distributed Systems Reading Group
- · Selected Coursework: Compilers, Operating Systems, Algorithms