

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, 2016

Backend Engineering Intern

New York, NY

- Constructed the distributed, parallel query processing engine for CockroachDB ([git.io/vMKFV](https://github.com/cockroachdb/cockroach))
- Implemented distributed sort algorithms, parallel aggregations for data analytics workloads
- Added 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

Jan – Apr, 2016

Production Engineering Intern

Ottawa, ON

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

Solink

May – Sept, 2015

Software Engineering Intern

Kanata, ON

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

RESEARCH

uWaterloo Computer Aided Reasoning Lab

Sept – Dec, 2015

Researcher

Waterloo, ON

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

PROJECTS

CFilter

[git.io/v6GkV](https://github.com/irfansharif/cfilter)

- Cuckoo Filter paper implementation, 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](https://github.com/irfansharif/gossip)

- 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

2014 – 2019 (*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