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 Jan – Apr '16
Production Engineering Intern *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