Irfan Sharif

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Skills

- Industry experience with distributed systems, storage engines, and microservices
- 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 and parallel query processing engine in CockroachDB *(git.io/vMKFV)*
- Implemented distributed sort algorithms and parallel aggregations for analytics workloads
- Designed distributed row de-duplication and highly performant n-way parallel SQL joins
- Improved existing SQL join performance by an order of 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 and 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*
- Implemented embeddable distributed gossip networks based on the SWIM paper
- Designed using gRPC and protobufs, an eventually consistent system resilient to partial failures

Open-source contributions: **robfig/Glock**, **spf13/Cobra**, **graphql-go/GraphQL**

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