IRFAN SHARIF

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SUMMARY

· Experience with distributed systems, ML, storage and search engines, file systems, SAT solvers
· Go, C++, C, Java, Python, Rust, Haskell, Ruby; NumPy, SciPy, Pandas, TensorFlow, Keras

EDUCATION

University of Waterloo   Sept '14 – Apr '19
Bachelor of Applied Science in Honours Computer Engineering (with Distinction)

EXPERIENCE

Cockroach Labs   *Toronto, ON*
Member of Technical Staff (Core)   July '19 – Present

LinkedIn   *Sunnyvale, CA*
Software Engineering Intern (Machine Learning Infrastructure)   Sept – Dec '18
· Worked cross-team on model serving, versioning, runtime environments and deployment systems
· Published designs on model state machines/deployment orchestration across thousands of hosts
· Introduced dynamic request buffering mechanism to mitigate bursty, high-throughput traffic load

Amazon   *Palo Alto, CA*
Software Engineering Intern (Search Relevance)   Jan – Apr '18
· Led multiple design reviews for proposals outlining measures to improve barcode search relevance
· Authored query reformulation modules to improve system recall and click-through rate by 2.49%
· Leveraged sequence-to-sequence learning to generate alternative search suggestions for users
· Incorporated OCR text around barcodes into ranking models to reduce defects/variance in results

Cockroach Labs   *New York, NY*
Backend Engineering Intern (Storage/Performance)   May – Sept '17
· Designed a dedicated persistent state storage engine for Raft, increased throughput by 14.6%
· Implemented flow-control mechanisms for writes, significantly reducing 99-th percentile latencies
· Patched etcd/raft's PreVote extension from the thesis paper, formally verifying using TLA+
· Forked grpc/grpc-go, increased throughput by 12.8% batching syscalls/reducing GC pressure

Backend Engineering Intern (Distributed SQL)   Aug – Dec '16
· Constructed core components of new distributed query execution engine, including distributed
  aggregations, sort algorithms, row-deduplications, and performant n-way parallel SQL joins

Shopify   *Ottawa, ON*
Production Engineering Intern (Infrastructure)   Jan – Apr '16
· Built an auto-scaling build system with dynamic workload distribution handling 1,000+ builds/day

RESEARCH

Computer Aided Reasoning Lab *(SAT/SMT solvers)*   Oct – Dec '16
· Researched search space pruning, clustering and parallelization strategies with Prof. Vijay Ganesh

PROJECTS

· **Kura** – An E2EE, synchronized, distributed file system with live-sharing and file streaming
· **CFilter** – Cuckoo Filter implementation with 730+ stars and 35+ forks on GitHub

Open-source contributions: **coreos/etcd**, **grpc/grpc-go**, **uber/go-torch**, **cerebrum**, **mqueue**