

Jayant Shrivastava

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Skills

Experience with distributed systems, data engineering, infrastructure, compilers, databases, and systems programming

Languages: Go, Python, Rust, Java, C++, SQL

Frameworks and Tools: Kafka, Spark, MapReduce, Hadoop, Thrift, gRPC, Airflow, CockroachDB, Docker, Git

Work Experience

Cockroach Labs - T4 Member of Technical Staff

July 2022 – Present

Performance, Systems Programming, Distributed Systems (Go/Golang)

New York, NY

- Worked on a team of <4 engineers to design and scale workloads that export up to 400TB at a time into external sinks such as Kafka and S3
- Reduced latency caused by export jobs by 91% by refactoring a memory-intensive queue to use 30% less memory and 45% less CPU, addressing customer issues
- Wrote a high performance library which used 42% less memory and 70% fewer allocations than the previous method
- Refactored several major systems to introduce a new access control model for to help achieve security compliance, directly unblocking revenue for the company
- Improved throughput of export jobs by 2x redesigning encoding and transmission
- Improved latency spikes caused by concurrent jobs from from 400ms to 40ms by adding CPU request throttling
- Served as an on-call engineer for >9 weeks in total and independently solved 17 customer incidents
- Added memory-accounting to systems to improve stability and prevent OOMs seen in production

Facebook - Software Engineering Intern

2021

Distributed Systems, Compilers (Python)

Remote(Canada)

- Implemented a caching library using external storage and launched it to production with over 95% test coverage facing a peak daily throughput of over 400 queries per second
- Improved the upper bound latency of a large job from 4h to 40 mins by reducing allocations and adding parallelism
- Identified and resolved bottlenecks in a compiler to reduce the compile time of a single item by over 70%

Cockroach Labs - Software Engineering Intern

2020

Performance, Systems Programming, Distributed Systems (Go/Golang)

Remote(Canada)

- Implemented the “CREATE SEQUENCE CACHE” operation, improving speed by 83% and memory by 67%
- Increased database test coverage by extending a random SQL generator to create and verify schema changes in Go

Shopify - Backend Engineering Intern

2020

API Development, Distributed Systems (Ruby)

Toronto, ON

- Developed backend services to record statistics from 300,000+ daily advertisements using Ruby and Kafka events
- Built a scalable, offline-first data exporting feature for ad metrics facing 500+ users using Rails and GCP storage
- Integrated a new type checking framework into a large infra project built with Rails

Volunteer Work

Hack the North - Authored and presented a databases workshop to over 100 in-person attendees

2022

Hack the North - Led a virtual workshop at Canada's biggest Hackathon w/ 400+ viewers

2021

Education

University of Waterloo

2017 - 2022

Bachelor of Applied Science, Computer Engineering

Waterloo ON

- Graduated with Distinction, Dean's Honors List, **GPA 3.95/4**