VAIBHAV RABBER

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SKILLS
Technical: C++, Go, JavaScript, Python, Rust, Git, Docker

EXPERIENCE

Analyst, Goldman Sachs   07/2021 - Present
- Member of the Global Markets Franchise Data team working on the proprietary distributed time-series database providing real-time market data to over 100 teams in the firm for analytics or backend service.
- Incorporated load balancing for market-data streams in the data collection service using the consistent hashing algorithm, reducing the overload on streaming servers to 1/2 times the original load.
- Multiplied the rate limit for requests to S3 storage exponentially and upgraded the storage engine to efficiently save and fetch data with key names larger than the provided limitation.
- Revamped the C++ and Java client interface to query data and introduced features like setting the number of retries for multi-clustered database instances, increasing the query success rate by 200%.
- Expanded the Lua-based query language to support Date types eliminating code smell around the data type by 100%.
- Optimised the query to return curve data structure by adding support for the datatypes natively in C++, increasing the capacity of clients to run thousands of parallel queries in the same amount of time.
- Resolved multiple critical bugs and conceived a testing framework around the data collector, decreasing the number of production issues concerning it by 90%.

Summer Analyst, Goldman Sachs   05/2020 - 06/2020
- Conceived a server-side processing unit to generate consolidated order books from real-time market data in C++.
- Integrated the processor with various database clients (C++, Python, Java, etc.), enabling developers to query the transformed data with the language of their choice.

Student Developer, Google Summer of Code with Zulip   05/2019 - 08/2019
- Added features like creating conversation transcripts and notifications for messaging events, enhancing the user experience.
- Re-engineered components like message edit box, drafts, and edit history modals with modern CSS techniques making it much less prone to UI-related bugs and more manageable for other developers.

PROJECTS

Pinger
- Led the development of an open-source uptime and status monitoring application in Go with a team of fellow university students.
- Designed a distributed architecture for running a large number of concurrent monitor checks – more than 1000 checks per node and collecting massive amounts of metrics with reasonably low latency – in the order of a few seconds.
- Introduced extendable interfaces to plug in different storage backends (Influx DB, Timescale DB, Prometheus etc.) and various check types (HTTP, ICMP Ping, WebSockets etc.) and integrated them with the application.
- Benchmarked and improved the performance of in-house key-value store 3 folds for write and 6 folds for read operations.

Gasper
- Steered the development a platform for around 8,000 college students to automate the deployment of web applications to showcase their projects in hackathons and coursework assignments.
- Overhauled the core pipeline to package multiple kinds of applications in Docker containers and deploy them on remote servers with a few clicks and a near zero-configuration.

Leaf
- Authored a command-line tool to watch for file changes to run a set of user-configurable commands when a file is modified used by developers across the globe, with over 100 stars on Github.

EDUCATION

B.Tech. in Civil Engineering   07/2017 - 05/2021
IIT Roorkee (CGPA: 8.087/10)

ACTIVITIES

Open Source
Zulip (GSoC Developer and Mentor), Caddy (Contributor), Cockroach DB (Contributor)

Competitions
Inter IIT Tech Meet Hackathon 2019 (Gold Medalist), UST Global d3code Hackathon 2019 (Winner)

Campus Groups
- SDSLabs (Secretary): Spearheaded the development of various university and open source projects with over 30 members.
- WatchOut (Web Developer): Built and maintained the website of the official student media body of the campus with 400+ articles.