

RAVYU SIVAKUMARAN

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in Ravyu

WORK EXPERIENCE

Software Engineer — Jump Operations LLC.,

Sept 2023 – Present

- Software Engineer for Firedancer, a high-throughput, low-latency distributed Solana validator written in C
- Coordinated efforts on tooling around development, reducing the time needed to find and fix blockchain consensus-breaking bugs from hours to minutes
- Integrating the runtime components of the validator to the full client to bring upwards of 50x improvement to the blockchain transaction processing bandwidth
- Fostered a synergistic working relationship with Anza, the team behind the Rust implementation of the Solana protocol

Software Engineer Intern — Jump Operations LLC.,

Jun 2023 – Aug 2023

- Worked as a Software Engineer, specializing in optimizing a core trading platform's transaction fees modeling library that is critical for calculating fees for various order types across multiple exchanges.
- Implemented a bucketing mechanism for efficiently indexing models within the library, which significantly enhanced data retrieval efficiency.
- Employed multithreading and utilized modern C++ features including `std::string_view` and `std::from_chars` for high-performance parsing to streamline model loading process.
- Successfully reduced the library's load times by 2-3 times through strategic code profiling and optimizations.

Software Development Engineer Intern — Amazon Web Services

Jun 2022 – Aug 2022

- Worked in the Redshift data share team which owns the table sharing protocol to provide inter-database, account, and region table sharing in an easy and secure manner
- Revamped encryption key management system for cross-database transactions by developing a key-caching policy framework that would allow host clusters to define access windows
- Wrote tests in pytest to determine suitable key lifespan periods for different cross-database workloads based on usage metrics

EDUCATION

Bachelors in Science, Computer Science — University of Illinois at Urbana-Champaign

May 2023

- GPA: 3.94/4.0, High Honors
- Engineering Bronze Tablet recipient, awarded to top 3% best performing undergraduates in the College of Engineering

PROJECTS

Self-Hosted cloud server

Ongoing

Converted my desktop to a cloud server for personal use.

- Running full LAMP stack with Nextcloud (Cloud storage), Gitea (Git server), SSH, VNC
- Utilized Linux OS specific tools (network management, bash scripting, systemd, software RAID) to setup the hosting platform
- Working on secure remote WOL (Wake on LAN) solution

LEADERSHIP

Air Warfare Officer — Singapore Armed Forces

Apr 2018 – Apr 2020

- Vocationalized in Military Aerodrome Air Traffic Control
- Completed service on April 10th with the rank of Lieutenant

TECHNICAL SKILLS

C
Python
Rust

