

# AMAN KUMAR

Bengaluru, Karnataka - India

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## EDUCATION

Indian Institute of Information Technology, Nagpur

Bachelor of Technology - Computer Science and Engineering

Nagpur, India

Jul 2019 - Jun 2023

## EXPERIENCE

Fortanix Inc.

Software Developer

Bengaluru, India

Mar 2024 - Present

- Delivered key performance enhancements for scans by optimizing the streaming pattern for data collection and improving the in-house **Azure SDK**.
- Developed key features for Key-Insight, including **On-Premise Scan**, **Federated Authentication** for Cloud Providers, and **Policy Center APIs**, which were critical to the platform's development.
- Expanded unit and integration test coverage for the majority of the scan flow and other CRUD APIs, including creating stub data for testing post-scan results.
- Contributed to the development of the backend using **Rust**, with **Python** occasionally used for scripting tasks.

Software Development Intern

Sep 2023 - Mar 2024

- Conducted in-depth research on **Azure hierarchy**, **IAM**, and services, and contributed to the development of an in-house **Azure SDK**, leveraging it for scans in Key-Insight.
- Contributed significantly to the development of the Key-Insight service, focusing on CRUD API implementation and integration with internal systems.
- Collaborated on improving the Data Security Manager, focusing on cryptographic key management, efficient key generation, and gaining expertise in **SGX enclave** technology with occasional use of Azure and AWS for supporting functionalities.

iRage Capitals

Quantitative Analyst Intern

Mumbai, India

Dec 2022 - May 2023

- Designed and implemented a comprehensive **risk management system** featuring an intuitive **alert dashboard** to enable real-time monitoring of trading activity and prompt notifications to traders in the event of any risk threshold breaches.
- Leveraged expertise in Futures and Options trading and data analysis skills to conduct an extensive analysis of trading data, identifying patterns and trends in key metrics such as **PnL** and **IV Gap** leading to enhanced trading performance.
- Optimized the trading process and increased overall efficiency through the application of advanced skills in **Shell Scripting**, **Linux**, **Python**, **data analysis**, and **Futures and Options trading**.

GNOME Foundation (*Google Summer of Code*)

Software Development Intern

Remote

May 2022 - Sep 2022

- Achieved a **32%** reduction in application startup time by optimizing database migration calls during startup.
- Implemented a robust sync model to enhance synchronization capabilities with third-party providers, successfully expanding support to two additional providers.
- Added **multi-user functionality** to the application by migrating the User schema from GSettings to the Tracker database, resulting in an enhanced user experience.
- Contributed to the optimization of the application's performance and functionality by utilizing extensive expertise in **Linux application development** with **Rust** and **GTK** and proficiency in managing data with **TrackerDB** and **GSettings**.

## OPEN-SOURCE

- Actively contributed to the **GNOME Organization** for **two years**, currently serving as a member, showcasing my dedication to the open-source community.
- Represented the GNOME Organization at **GUATEC** and **GNOME.Asia** in Kuala Lumpur in 2022, demonstrating my contributions and presenting innovative ideas.
- Contributed to Polygon Miden and SurrealDB, working on functionality improvements and bug fixes.

## PROJECTS

Order Matching Engine | *GitHub*

May 2023

- Developed a high-performance NASDAQ ITCH Limit order book in **Rust**.
- Delivered processing speeds of **11.4 million messages per second**, accompanied by a low latency of just **87 ns/tick**.

Decentralized Chat App | *GitHub*

May 2021

- Developed a decentralized chat application using the MVC model during a 2-day hackathon **Node.js**, **Express.js**, **HTML**, **WebSockets**, **Aleph.im**, **MongoDB**.
- Used metamask to sign each chat transaction and store the metadata in the Aleph.im.

## TECHNICAL SKILLS

**Languages:** C/C++, Rust, JavaScript, TypeScript, Python

**Tools and Technologies:** React, Node.js, Express.js, SQL, MongoDB, GTK, Linux, Git, Shell Scripting