Rohit Ashiwal

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Summary

Software Engineer with **4 years** of experience, specializing in **distributed systems** and **backend development**. Demonstrated impact at **AWS OpenSearch** by optimizing serverless performance and introducing a novel shard splitting algorithm. Previously built **scalable data processing systems** for the Amazon Influencers team and **improved the C++ query engine** at ThoughtSpot. An **open-source contributor** to **Git** (Google Summer of Code), a former **Microsoft Student Ambassador**, and a **Computer Science graduate** from **IIT Roorkee**.

Skills

- **Programming:** Java, C, C++, Go, Python, Kotlin, JavaScript, Git, Bash, Docker, GDB, make, Doxygen, AWS, GCP
- **Interests:** OpenSource, Distributed Systems, Databases, Search-Space optimisation problems

Experience

Senior Software Development Engineer July 2025 - August 2025

Gnani.ai *Bengaluru*

- Worked on improving and stabilizing the **Inya** platform to eliminate call drops
- Extended support for streaming audio using gRPC

MTS-3 November 2024 - May 2025

ThoughtSpot *Bengaluru*

- Improved the query generation engine written in C++ by resolving bugs in Spec Transformer
- Introduced "cohorts" which translates to CTEs, hence, improving the reusability of common expressions

Software Development Engineer September 2022 - July 2024

Amazon Web Services (AWS OpenSearch) *Bengaluru*

- **Improved signals** emitted to the Serverless scaling platform, hence, enabling **faster** and **accurate sizing** of workers to lower the entry cost to AWS OpenSearch Serverless by half!
- Introduced support for **in-place shard split** to deal with the **hot shard issues** in our Serverless offering. Devised a **novel hierarchical routing algorithm** which allowed incremental splitting **without performance overheads** leading to a **13% increase in search throughput**
- **Improved observability** of the system by deriving and publishing more metrics, thusly, **reducing the turn-around time of the RCA by 50%** and enabling better ticket routing
- **Maintainer of the Index Management project**. ISM Plugin lets you automate periodic, administrative operations by triggering them based on changes in different index parameters, improving lifecycle management of indices

Software Development Engineer July 2021 - September 2022

Amazon *Bengaluru*

- Developed highly scalable big data processing systems as part of the Amazon Associates (Influencers) team
- Enabled Associates to earn commissions through multiple regions without going through the complete onboarding process expanding their business globally increasing their sales by **3x!**
- **Launched Amazon Fresh** as a different "brand" expanding on the available segregation to help Associates better plan their area of focus
- Prepared ETL pipeline under an org-wide initiative to provide **strong consistency** between Amazon's account books

Student Researcher February 2020 - September 2020

Jülich Supercomputing Centre *Remote @ Germany*

- Remote collaboration with **Prof. Dirk Pleiter** and **Prof. P. Sateesh Kumar**, analysing performance of **Asynchronous Many-Task runtime systems on ARM platforms**
- Implemented an optimal 2d stencil application in **HPX** utilising **SIMD** instruction set

- Benchmarked the application with **Intel SSE/AVX** and **ARM NEON/SVE** with **GNU** and **ARM HPC** compiler
- Resulted in a **publication** in **IEEE Conference on Cluster Computing** [see here]

Student Software Developer May 2019 - August 2019

Git *Remote @ Google Summer of Code*

- Worked as an open source contributor to git and git-for-windows
- Worked with Thomas Gummerer and Elijah Newren to improve consistency between different git backends (am and sequencer)
- [see project introduction here and code here]
- Introduced optimization into git-for-windows [see here]. Mainly, worked to eliminate dependency on **gzip** on host machine

Key Achievements

Cost Reduction: Played a pivotal role in lowering the operational costs for AWS OpenSearch Serverless by optimizing resource allocation and improving indexing efficiency

System Reliability: Enhanced the reliability and stability of the serverless offering by addressing critical performance bottlenecks and improving the monitoring infrastructure

Innovation: Contributed to the development of innovative solutions for shard management, significantly improving the scalability and performance of the indexing system

Leadership: Provided technical leadership and guidance to the team, mentoring junior developers and fostering a culture of continuous improvement and innovation

Education

Bachelor of Technology in Computer Science and Engineering July 2017 - April 2021

Indian Institute of Technology Roorkee (IITR) *Roorkee, Uttrakhand*