

Danish Rehman

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San Francisco, California

Professional Experience

Staff Software Engineer, Aspire

San Francisco, CA

Founding member - *Python, Typescript, NodeJS, PostgreSQL, Redis*

2018 – 2023

- Joined as the **third founding engineer**, helped in building an **e-commerce marketing platform from the ground up (0-1)** and ultimately **scaling the product(1-N)** to achieve a \$100 million ARR.
- Architected and implemented the **messaging-as-a-service** facilitating communication for multiple brand users using distributed systems processing over **1 million messages** daily while maintaining a **99.99% reliability rate**.
- Led **2+ teams** in the development of a **workflow product** that orchestrated and streamlined campaign-critical tasks. This initiative not only helped scale the number of **campaigns tenfold** but also reduced **campaign completion time by 30%**.
- Developed the **shared message inbox product**, a feature that was collaboratively **implemented across two teams**. This allowed multiple users to access and manage a common email address, facilitating the brand to delegate and work more efficiently at scale. Resulted in 30% increase of communication volume and a **50% faster response time**.
- Established a **culture of observability** using Datadog APM throughout the **engineering organization**. Set and enforced SLOs for mission critical API, ensuring consistent SLA compliance. This led to a reduction in P1 bug resolution time from **10 days to 3 days**.

Senior Software Engineer, Criteo

Palo Alto, CA

Adserv Team - *Python, DynamoDB, Cassandra, AWS S3*

2016 – 2018

- Led **teams in both Paris and Palo Alto** to meticulously plan and execute a 12-month migration of a recently acquired company's infrastructure, serving 100K QPS, from AWS to proprietary data centers. Thereby achieved annual **cost savings of \$2 million** and maintained a **high availability of 99.999%** during the live traffic migration.
- Architected and implemented a **reporting platform** tailored for time-sensitive data, achieving **high-throughput of 40K QPS**. Implemented using worker nodes that execute data rollup tasks and persist results in Cassandra which is later consumed by the reporting service.

Software Engineer, Brightroll / Yahoo

San Francisco, CA

User Mapping Team - *C, AeroSpike*

2015 – 2016

- Engineered an in-memory, lock-free data structure (Urcu - linux lock-free data structure) for the **user mapping system**—a platform that aligns user identifiers across various systems. This enhancement achieved a **500% reduction in datastore load**.
- Designed and implemented a **cookie-matching server**, adept at synchronizing user identifiers across ad platforms, managing a **60K QPS**. This server streamlines targeted advertising by bridging communication gaps in the ad tech ecosystem.
- Designed a **modular rate-limiting solution** utilizing the token bucket algorithm, enabling granular rate-limiting per partner, per thread. Achieved efficient **rate-limiting performance at 10K QPS**.

Software Engineer, Goibibo

Bangalore, India

Optimization Team - *Python, Memcached, PostgreSQL*

2010 – 2013

- Engineered an **adaptive expiry algorithm for Memcached**, enhancing cached data management and propelling the **hit rate from 28% to 58%**.
- Integrated **Pybloomfilter** to optimize API interactions with external vendors, successfully reducing external **API calls by 50%**.

Programming Languages, Frameworks and Tools

Programming Languages: Python, NodeJS, Typescript, React, C

Databases: PostgreSQL, Redis, DynamoDB, Google Cloud Task, Google DataStore, Google PubSub

Cloud platforms: GCP, AWS

Education

Masters in Computer Science University Of Southern California, USA	2013 - 2015
B. Tech in Information Technology NIT Allahabad, Allahabad, India	2005 - 2009