

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**.
- 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**.
- 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**.

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

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