

## ATUL NATH

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## EDUCATION

### UNIVERSITY OF SOUTHERN CALIFORNIA

Los Angeles, CA

#### Master of Science, Computer Science | GPA: 4.0/4.0

Aug 2023 – May 2025

- Graduate Teaching Assistant: Design and Construction of Large Software Systems
- Relevant Coursework: Analysis of Algorithms, Distributed Systems, Database Systems, Artificial Intelligence

### VELLORE INSTITUTE OF TECHNOLOGY

Vellore, IN

#### Bachelor of Technology, Computer Science and Engineering | GPA: 9.26/10

Jul 2017 – Jun 2021

- Relevant Coursework: Algorithms, Software Engineering, Operating Systems, Database, Applied Linear Algebra

## SKILLS

**Programming Languages:** Go/Go Lang, Java, TypeScript, Python, C#, GraphQL, HTML, CSS, Node.js

**Databases:** SQL Server, Elasticsearch, Druid, MongoDB, PostgreSQL, CockroachDB

**Frameworks and Tools:** Docker, Kubernetes, Kafka, Redis, Prometheus, Grafana, ELK Stack, AWS

Cloudwatch/CDK/Cloudformation/S3/Dynamo DB, Bash, Flask, Git, Postman, Jenkins, CI/CD, RESTful APIs, Microservices, Linux, Windows Server, gRPC, JSON, Powershell, Microsoft Power BI, Microsoft SSRS

**Soft Skills:** Agile/Scrum, Leadership, Teamwork, Public Speaking

## WORK EXPERIENCE

### AMAZON

Bellevue, WA

#### Software Development Engineer

Jun 2025 – Present

- Led the end-to-end migration of an **order-tracking workflow** from a legacy service to a modern **TypeScript/Java**-based platform; delivered full feature parity, improved UI/UX, and a zero-downtime cutover used by **1000+ members** across teams
- Designed and implemented **pre-production validation stages** (OneBox) for a Tier-1 routing service, via **AWS CDK** infrastructure, enabling safe rollout on **10% of production traffic** and achieving **zero production incidents**
- Prototyped an **exclusion-filter system** in a snapshot-vending service that screens routes using **rule-based categories** and **denial lists**, preventing malformed data from corrupting snapshots and destabilizing downstream workflows

### BOSE CORPORATION

Framingham, MA

#### Cloud Software Engineer Intern

Jun 2024 – Aug 2024

- Created and containerized a **Flask**-based Alert Reader tool to automate the reporting of **Prometheus** metrics scraped from Slack channels, integrating **Grafana** and Kibana links, and cutting down alert reporting time by 50% for on-call responders
- Optimized **Cron Jobs** for nightly backup and restore operations from **CockroachDB** to **S3**, decreasing disk capacity usage from 50 GB to 100 MB

### HEWLETT-PACKARD ENTERPRISE

Bangalore, IN

#### Cloud Developer I

Aug 2021 – Jun 2023

- Designed, developed, and maintained **REST APIs** in **Go** to manage NFS shares and features for HPE's GreenLake Cloud Platform
- Implemented 4 **Microservices** to handle asynchronous device communication, enhancing scalability of framework
- Devised a Delta Protocol with **LRU-Cache** to optimize data transmission, reducing API response time from **5 minutes to less than 1 minute**

### HEWLETT-PACKARD ENTERPRISE

Bangalore, IN

#### Software Engineer Intern

Feb 2021 – Jul 2021

- Developed multiple REST APIs using **Powershell** and **C#**, enabling file-share CRUD operations on **Windows Guest VM**
- Devised automation techniques for 8-10 Windows **Active Directory** features, streamlining the overall development process
- Wrote **N-Unit** test cases in **C#** for CLI and Rest endpoints, improving code coverage by 50% for File Manageability Layer

## ACADEMIC PROJECTS

### Raft Consensus Protocol Implementation | C++, gRPC

Sep 2024 – Nov 2024

- Implemented **RAFT** protocol with leader election and fault-tolerant log replication, ensuring system reliability in distributed systems.
- Designed **gRPC** communication to handle AppendEntries and RequestVote RPC handlers, while maintaining system consistency even in the presence of network partitions or node failures

### Stock Trade Application | React JS, Node JS, MongoDB, GCP

Jan 2024 – Apr 2024

- Built a responsive stock trading application to buy/sell stocks and visualize insights of NASDAQ and NYSE stock tickers
- Managed a **MongoDB Atlas** datastore for stock watchlists and portfolio data, hosted on Google Cloud Platform (**GCP**).