

Umar Ahmed Thameem Ahmed

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EDUCATION

University of Colorado Boulder

Master of Science in Computer Science – **CGPA: 4.0/4.0**

Boulder, CO, United States

Aug 2025 – May 2027

Related Coursework: Distributed Systems, Systems for ML, Datacenter Scale Computing, Big Data Architecture, Computer Vision

College of Engineering Guindy, Anna University

Bachelor of Engineering in Computer Science and Engineering – **CGPA: 8.75/10**

Chennai, India

Aug 2018 – Apr 2022

Related Coursework: Data Structures & Algorithms, Database Systems, Operating Systems, Object-Oriented Programming, Cloud Computing, Computer Networks, Machine Learning, Big Data Analytics, Data Mining, Software Engineering

EXPERIENCE

Nueromind Technologies

Founding Software Engineer | Python, FastAPI, React, MongoDB, Docker, AWS, ELK

Bangalore, India

Jan 2024 – Jul 2025

- Led a 7-member **cross-functional** team, conducted code reviews and architected **backend systems** for a **\$240K+ ARR AI video conferencing platform**, achieving **99.9% uptime** through scalable **AWS microservices**
- Reduced video pre-processing latency by **35%** by engineering a **maintainable, multithreaded, I/O-optimized FFmpeg pipeline** that **parallelized** chunking and transcoding with asynchronous **S3 prefetching** for **real-time WebRTC streams**
- Achieved **24 FPS AI inference** under high-concurrency production load by architecting a **Celery**-based distributed inference system for asynchronous task orchestration
- Improved **deployment reliability** for a **~2K MAU** multimodal inference platform by implementing **canary rollouts** on a **Modal** and **Nomad** setup with **Prometheus**-based monitoring for latency, token usage, and error rates

Infibeam Avenues

Bangalore, India

Software Development Engineer | Ruby on Rails, AngularJS, MySQL, Docker, Kubernetes

Jul 2022 – Jan 2024

- Shipped a scalable **Firebase-based seller notification system** serving **1M+** sellers, driving a **15%** increase in seller engagement through real-time push notifications within an **Agile** team
- Developed a suite of **REST APIs in Ruby on Rails** to **automate** seller ticketing workflows and **integrate** third-party service APIs, collaborating with support teams to reduce manual efforts by **120+ hours/month**
- Built a **round-robin work allocation system** to distribute seller stock approval requests across admins and produced clear **documentation** for its allocation logic, reducing approval times by **15%** and preventing workload bottlenecks

Totallr Technologies

Chennai, India

Software Development Intern | Angular, Spring Boot, MySQL, AWS

Apr 2021 – Jun 2021

- Shipped a high-throughput **full-stack Point-of-Sale (PoS)** system using **Spring Boot** and **Angular**, reducing checkout times and automating invoicing across **15+** enterprise clients at launch
- Identified and optimized slow database queries through refactored access patterns, **triggers**, and **stored procedures**, cutting query latency from **1100 ms** to **700 ms** during peak transaction loads through rigorous testing
- Built an **analytics dashboard** using **Chart.js**, enabling fast access to sales insights for forecasting and inventory planning

PROJECTS

Distributed Log Processing System

- Engineered an **end-to-end real-time ETL pipeline** for **log analysis** with **Apache Kafka**, **Apache Flink**, **ClickHouse**, and **Redis**, scaling throughput **10x** to **~1M events/min** compared to a synchronous baseline
- Developed an **observability dashboard** with a **Next.js** frontend and **FastAPI**, **Redis**, and **ClickHouse** backend to achieve **<100 ms** average query latency via caching and analytical query optimization

HyRA - Hybrid Routing Agent

- Built a **distributed LLM routing service** with **vLLM**, **LangGraph**, and **Flask**, dynamically routing requests across models to optimize latency, accuracy, and cost, achieving **~30% efficiency gains** over a static baseline
- Designed a **PostgreSQL-backed model registry** and integrated an **LLM-as-a-Judge** feedback loop with iterative **prompt engineering** to evaluate routing decisions, improving accuracy from **71%** to **89%**
- Deployed **vLLM**-based model serving on GCP with **Langfuse** for **production-grade monitoring** and **profiling**

SKILLS

Programming Languages: Python, Ruby, Java, JavaScript, TypeScript

Web Development: React, Angular, AngularJS, Ruby on Rails, Flask, FastAPI

Databases & Caching: SQL, MySQL, MongoDB, PostgreSQL, Oracle DB, Qdrant, Redis, Memcached

Cloud, DevOps & OS: Docker, Kubernetes, AWS, GCP, Git, GitHub, CI/CD, Nginx, Linux

GenAI & Observability: OpenAI API, Gemini API, Anthropic API, Langfuse, Elasticsearch, Logstash, Kibana, Prometheus, Grafana