Harsha Maddirala

Frisco, Texas   ✉ vxm220023@utdallas.edu   📞 (518)4965533   [in]   [github]   🔗 Portfolio

SUMMARY

Recent Master's graduate with excellent understanding of Distributed systems, and multithreading to build highly scalable services. Worked at a early stage startup as Software Engineer using Java and TypeScript.

EDUCATION

University of Texas at Dallas, Richardson, Texas   **Aug 2022 – May 2024**
Master of Science, Computer Science; GPA: 3.7/4.0
- Relevant Coursework: Multi-core Programming, Machine Learning, Database Design, Analysis of Algorithms, Big Data

Indian Institute of Information Technology, Sri City, India   **Aug 2017 – May 2021**
- Bachelor of Technology, Computer Science

WORK EXPERIENCE

University of Texas at Dallas,   **Oct 2023 – May 2024**
Student Research Assistant
- Analyzed **2M data points** from CEOs' social media handles with Python, OpenAI embeddings, and DeepFace.
- Engineered a multi-threaded solution that reduced I/O bottlenecks and achieved **3X speedup**.

ShopConnect - Bengaluru, India
Software Engineer   **Jul 2021 – Aug 2022**
- Worked at an E-commerce startup using distributed Spring Boot microservices, NodeJS, Angular (TypeScript), and AWS.
- Implemented peer-to-peer video call and in-call cart service using WebRTC and Sockets **to support 50 members**.
- Developed a new checkout flow with integrations to Razorpay SDK and ShipRocket API.
- Achieved a **90% reduction in time spent** on content publishing tasks by integrating Instagram Graph API and built a targeted promotion system, enabling seamless publication and moderation with a single click.
- **Increased user engagement time by 25%**, by using Three.js to display and customize 3D product models.
- Engineered a post-order email dispatch module with recommendations, using Kafka events and built the UI with HTML.
- Improved **app performance by 40%** using lazy loading and Web Workers, and participated in code reviews.

Software Engineer Intern   **Aug 2020 – Dec 2020**
- Contributed to "ValUChain" product (Supply chain) by revamping Orders module with stock conversions.
- Developed a widget that enables integration with existing client websites to increase user engagement.
- Wrote scripts to enhance the onboarding process for new clients, resulting in **savings of up to 6 man-hours**.

PROJECTS

Distributed Storage System (Ceph | Kubernetes | Python | Linux) 🔗
- Built a fault tolerant distributed object storage system using Ceph with custom CRUSH algorithm for tiered storage on an Azure Kubernetes Service (AKS) cluster, with RADOS Gateway and PV for S3 compatibility, ensuring **4 9s reliability**.
- Deployed the backend authentication service as a Kubernetes pod with load balancer, ensuring seamless integration.

Concurrent Data Structures (Java)
- Utilized Java to develop concurrent data structures with my own fine-grained locks and multi-threading. Ran the Parallel programs on TACC super cluster and achieved **600ms performance improvement** for million reads.

WhatsApp Simulation (React | Redux | Spring Boot | NodeJS | Kafka | SQL) 🔗
- Built a **MERN** chat app. System follows a distributed event-driven architecture with multiple backend servers.
- Leveraged Kafka to orchestrate events between backend servers. Deployed Kafka on Confluent cloud.

In-Memory Messaging system, (Go)
- A memory based publish-subscribe messaging system built with Go, offering instant event transfer for distributed systems.
- Supports low latency of **1ms for distributing 100KB-sized** messages, with throughput reaching **380MB/s**.

SKILLS

Languages: Python, Java, C++, JavaScript, TypeScript, Go, SQL, HTML, CSS

Frameworks: Angular, NodeJS, ReactJS, Spring Boot, Django, PyTorch

Technologies: MongoDB, Kafka, Azure, AWS, Linux, Git, Docker, Ceph, Kubernetes, Hadoop, PySpark