Harsha Maddirala

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SUMMARY

Recent Master's graduate with excellent understanding of Distributed systems, and multi-threading 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   08/2022 – 05/2024

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   08/2017 – 05/2021

- Bachelor of Technology, Computer Science

ACADEMIC EXPERIENCE

University of Texas at Dallas,
Student Research Assistant – Part Time   10/2023 – 05/2024

- 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**.

WORK EXPERIENCE

ShopConnect - Bengaluru, India
    Software Engineer – Full Time   07/2021 – 08/2022

- 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 – Full Time - Internship   08/2020 – 12/2020

- 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 on an Azure Kubernetes Service (AKS) cluster, with Persistent Volume and RADOS Gateway for S3 compatibility, and 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 by using 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