Shiva Kumar Veldi

Senior Software Engineer

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Professional Summary

Engineer with a dual degree from IIT Kharagpur in Computer Science and High-Performance Computing, and over 3 years of experience at Samsung R&D. Specialized in building low-latency, high-throughput systems that process millions of requests daily. Experienced in C++, parallel programming, and distributed infrastructure. Strong background in performance optimization, quantitative modeling, and large-scale system design. Adept at collaborating with global teams to deliver reliable, secure, and efficient software solutions. Seeking opportunities in high-frequency trading, quantitative finance, and HPC-driven platforms.

Core Competencies

Languages: C++17/20, C, Python, Java, Bash, SQL
System Optimization: Multithreading, Lock-Free Data Structures, Zero-Copy, CPU Pinning
Performance Tools: Linux perf, Flame Graphs, Intel VTune, Sanitizers, Heaptrack
HPC/Parallel: OpenMP, MPI, CUDA, SIMD Vectorization
Cloud/Infra: AWS (ECS, ELB, DynamoDB, RDS, Lambda), Docker, Terraform, NGINX/Apache+mTLS
Quantitative Skills: Time-Series Analysis, Risk Modeling, Latency Control, Stochastic Processes

Professional Experience

Samsung Research Institute, Bangalore Jun 2022 – Present
Senior Software Engineer

- Scaled eSIM Discovery Service to handle 16M+ daily requests with 99.9% uptime through advanced system design and kernel-level optimizations.
- Reduced tail latency by 40% via asynchronous I/O, lock-free communication, and optimized CPU utilization.
- Migrated large-scale services from EC2 to ECS clusters, improving scaling efficiency and deployment speed.
- Enhanced system security and reliability with enterprise-grade TLS configurations and continuous latency monitoring.

Samsung Research Institute, Bangalore May 2021 – Jul 2021
Software Engineering Intern

- Developed GPU-accelerated defect classification model, improving accuracy and throughput for large-scale image analysis.

Selected Projects

High-Frequency Trading Prototypes

- Built lock-free C++20 order book enabling sub-microsecond updates for simulated trading.
- Implemented market data handler for real-time feeds with robust gap recovery and zero-copy trading engine.
- Created event-driven backtesting framework with nanosecond-level precision.

Pedestrian Intent Prediction (M.Tech Thesis) – Real-time (26 FPS) YOLOv4+DeepSORT+LSTM pipeline; 97% accuracy. Automated Learning Science Analysis (B.Tech Project) – Machine learning pipeline using Word2Vec and SVM; +15% over baseline.

Education

Indian Institute of Technology, Kharagpur (IIT KGP) Graduation: 2022
Dual Degree (B.Tech Computer Science & Engineering + M.Tech High-Performance & Parallel Computing)
Relevant Coursework: Algorithms, Operating Systems, Distributed Systems, High-Performance Computing, Probability & Statistics, Finance, Machine Learning, Deep Learning.

Achievements & Honors

- Samsung Excellence Award – **Super Tech (Development to Market)**.
- Certified in Samsung Software Competency (Advanced + Professional).
- AIR 1187 (JEE Advanced), AIR 2948 (JEE Mains).