

HARSH GUPTA

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Education

Vellore Institute of Technology, Vellore

Jul 2020 – May 2024

B.Tech in Computer Science and Engineering

9.09, CGPA

Experience

Nugget (Eternal) 🔗 [Software Development Engineer]

Oct 2025 – Present

- Designed timeout-based failover for AI agent responses using cache-backed state tracking, enabling **automatic escalation to human agents** and reducing **stuck/unhandled tickets to near-zero**.
- Implemented **configurable round-robin ticket assignment strategy** to eliminate **workload skew and efficiency tax on top performers**.
- Built a **resilient async bot localization pipeline** with bounded retries and exponential backoff, reducing component creation failures **to 0**.
- Redesigned agent concurrency from **global to source-based limits**, enabling **channel-level workload control**, preventing overload, and **improving agent utilization and SLA adherence**.
- Added **forced agent assignment** to the **external API**, enabling deterministic, client-controlled ticket routing.

Luganodes 🔗 [Software Development Engineer]

Sep 2023 – Oct 2025

- Led the development of a **batch contract** 🔗 using **EIP-7702** which enables **high-throughput transaction batching** to optimize operational efficiency for large-scale validator operations.
- Developed and contributed to high-volume staking APIs (Ethereum, Solana, Polygon) that secured over **\$1.3B+** in institutional client stake.
- Engineered a sophisticated reporting dashboard, integrating **20+ blockchains**, delivering accurate financial reports for clients with over **\$3B+** staked with us.
- Architected high-performance **data ingestion pipelines** and **indexers** for 8+ blockchains (Ethereum, Polygon, Solana, Polkadot, Avail, **Berachain** 🔗, MultiversX, Kava), processing **billions of events** in real-time.
- Built automated optimization tools for Berachain validators, **achieving top 10 leaderboard** position with **95% less stake than competitors** through data-driven optimization strategies.
- Spearheaded** the migration of services from Docker on individual VMs **to Kubernetes**, implementing a **GitOps workflow** with ArgoCD, secrets management with Infisical, a monitoring stack, and MongoDB replica sets.
- Implemented **end-to-end monitoring and analytics** dashboards using Grafana, Mimir, Alloy, and Loki, with **real-time logging and alerting** for critical services.
- Automated a zero-touch validator onboarding pipeline, **eliminating 100% manual errors**.
- Built an **event-driven data capture system** to track validator deposits, eliminating third-party dependencies, and **saving \$399/month** in operational costs.

Dyte (now Cloudflare) 🔗 [Software Engineering Intern]

May 2023 – Aug 2023

- Conducted large-scale load testing on real-time socket services, validating system reliability and performance under **100,000 concurrent connections**.
- Authored comprehensive unit tests in Go for the core sockets layer, achieving **90% test coverage** and automating coverage reporting within the CI/CD pipeline.
- Implemented a health probe to monitor socket service uptime, delivering **real-time status alerts** to Slack and improving incident response time.

Projects

Email Extractor

- Automated IEEE-VIT's sponsorship workflow using Selenium WebDriver and Python3, achieving a **300% increase in sponsorship revenue** from the previous year
- Designed a high-volume email delivery system using AWS SES, SendGrid, and Mailgun, capable of dispatching over **10,000 emails per event**.

Leadership / Extracurricular

Technical Head, IEEE-VIT

Dec 2020 – Dec 2023

- Oversaw technical growth of **75+ members**, promoting open-source culture and engineering best practices.
- Launched projects and software for events used by **1500+ participants** in **100+ countries**.
- Speaker at Techloop – Introduction to MERN 🔗, guiding **400+ students** in Web Development.

Achievements

- Awarded the Merit Scholarship 🔗 for Outstanding Performance in academics by VIT Vellore, twice.

Skills

Languages: Go, TypeScript, JavaScript, Python, Rust, Java, C/C++

Systems & Infra: Kafka, AWS SQS, Redis, AWS ECS, GCP, Azure, Kubernetes, Docker, ArgoCD, Cloudflare Workers

Data & Observability: PostgreSQL, MySQL, MongoDB, BigQuery, Grafana, Prometheus, Loki, Mimir