Avinash Swaminathan

avinashswaminathan99@gmail.com | linkedin.com/in/avinash-swaminathan/ | github.com/avinsit123

Education

Georgia Institute of Technology — Atlanta, GA
M.S. in Computer Science (GPA: 4.0/4.0) — *Aug 2022 – May 2024*

Netaji Subhas Institute of Technology — New Delhi, India
B.E. in Information Technology (GPA: 9.15/10) — *Aug 2017 – May 2021*

Experience

HubSpot — October 2024 – Present
Software Development Engineer — *Cambridge, MA*

- Built an autonomous **alert investigation agent** (Java/Python, custom harness) that fans out parallel **sub-agents** over **MCP** tools (logs, metrics, traces, deploys) to deliver ranked root causes in **p95 ∼7 min** for **∼20% of company-wide pager load**.
- Ranked hypotheses by evidence strength under **read-only, permission-scoped** tool access; **cut LLM cost** by offloading tool calls to cheaper sub-agents (Claude Haiku, Gemini Flash).
- Built an **LLM-as-judge eval** on ∼110 human-diagnosed incidents per sprint; tuned prompts and models to raise root-cause match rate from **40% to 55%**.
- Shipped an **LLM triage system** summarizing deploys, logs, and metric breaches for on-call engineers, **rolled out across 500+ teams**.
- Led a **zero-downtime migration** of the monitor-config registry from Netflix Hollow to **MySQL + Caffeine** via dual-writes and a reversible, feature-flagged cutover at **∼20K QPS**.
- Re-architected monitoring acceptance tests, raising pass rate **75% → 95%** and cutting runtime **15 → 5 min**.
- Built alert grouping that **cut on-call page volume 15%**; onboarded and mentored new engineers.

MathWorks — May 2023 – August 2023
Software Engineering Intern — *Natick, MA*

- Developed and implemented **custom charts** using the *MATLAB Chart Authoring Framework* for File Exchange users.
- Created **front-end design specifications** and built APIs to enhance **chart customization and interactivity**.
- Designed and implemented three charts: **Fill Between Area Chart**, **Horizon Chart**, and **Arc Diagram**.

Atlassian — July 2021 - July 2022
Software Development Engineer — *Bengaluru, India*

- Managed transition of reporting microservices to use *SLAuth/POCO security mechanism* for all ingress/egress HTTP requests leading to services achieving security score = 80% in Atlassian's internal security scorecard
- **Led** a 2-engineer team to build a **Kafka-based CDC pipeline** streaming CMDB changes from *Insight* into Atlassian's **Data Lake** at a **99.99% SLA**, **unlocking customer-facing analytics** for **10k+ customers**.
- **Identified** failed report deliveries as **∼30% of the team's support load** and built a **Spring REST retry API** to auto-resend them, **cutting overall support tickets by 30%**.

Projects

Agentic Restaurant Finder | Live Demo

- Built an *agent* with *LangGraph* that turns natural-language queries (e.g. "late-night ramen near me") into ranked restaurant picks, calling the *Google Places API* and browsing restaurant websites as tools
- *FastAPI* backend routes user queries to agent which performs search and returns structured output that is served to users
- Agent output is checkpointed to Neon DB allowing users to refine search results
- Shipped UI and API as a single multi-stage *Docker* image deployed to *Google Cloud Run*

Technical Skills

Languages: Python, C/C++ , Java
Frameworks/ Tools: Springboot, Spring, Git, AWS, Gradle, Maven, Looker, Docker, JIRA, Hibernate. Kafka
Databases: MySQL, Postgres, DynamoDB, Amazon RDS
AI: Claude Code, GitHub Copilot, Cursor, Langchain, Agent Skills, Prompt Design, LLM evals