Tanish Malekar

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Education

MS in Computer Science, Stony Brook University, New York — Aug 2025 - May 2027
Coursework: Advanced Database Systems, Data Science Fundamentals, Human Computer Interaction

BS in Computer Science, Vellore Institute of Technology (**GPA: 4.0**) — Aug 2019 { May 2023
Coursework: Operating Systems, Database Systems, Computer Networks, Data Structures, Machine Learning, NLP

Technical Skills

Languages/Databases: Python, C/C++, Java, JavaScript/TypeScript, Go, HTML5/CSS3, SQL, MySQL, PostgreSQL, NoSQL, MongoDB, vector DBs, Pinecone, Redis, ElasticSearch
Frameworks/Technologies: Django, NodeJs, Spring Boot, FastAPI, Kafka, LangChain, React, Next.js, TailwindCSS, Scikit-learn, TensorFlow, Pandas, NumPy, LLMs, RAG, Distributed Systems, Consensus Algorithms
Cloud/Tools: GCP, AWS, Azure Cloud, Git, Linux, UNIX, Docker, Kubernetes, Helm, Logstash, Kibana, Grafana

Experience

Bajaj Finserv Health — Pune, India
Software Engineer — **Jul 2023 - Jun 2025**

- Built a health camp booking platform (**React, Next.js, Python (Django), PostgreSQL**), handling **100k+ bookings** for **15+ enterprise clients (Meta, LinkedIn, Amex etc.).**
- Built an agentic chatbot using **Python, LangChain**, and **Gemini-2.5-Pro** to automatically add, update, and remove lab tests from medical catalog, **cutting catalog update time by 70%**.
- Integrated **Kubernetes Persistent Volumes** with **GCP Filestore** to enable shared caching across pods, **cutting memory usage by 80%** and ensuring zero data loss on restarts.
- Enabled real-time search on **1M+ lab tests** by replacing cron-based **MySQL-ElasticSearch** sync with **Kafka CDC**, cutting latency from **2 hrs to near real-time**.
- Set up **ELK**-based observability (tracing, dashboards, alerts) for **7+ services**, reducing MTTR by **40%**.

Software Engineer Intern — **Jan 2023 - Jun 2023**

- Contructed an OCR system for medical prescriptions using **Python, Google Cloud Document AI, OpenCV**, and **Gemini**, achieving **92%+ accuracy** across multilingual inputs.
- Designed a fault-tolerant refund fow in **Java Spring Boot** with DLQs using **AWS SQS**, ensuring **99.9% reliability** for **1K+ monthly transactions**.
- Built **CI/CD** pipelines (**Jenkins**) for **5+ services**; improved quality with **85%+ test coverage** and **SonarQube**.

Protal — Vellore, India
Full Stack Developer Intern — **Jun 2021 - Aug 2021**

- Led a 3-member team at an **early-stage startup** to build a talent discovery platform (**React, Node.js, MongoDB**) from scratch, deployed on **AWS Kubernetes (EKS, EC2, ALB, S3)**.
- Pitched to university incubator, securing **$6k in funding**.

Projects and Publications

SafeSupportAI [Github, Website] *Python, LangChain, RAG, FastAPI, Gemini-1.5-Flash, MongoDB, React, Three.js*

- Built SafeSupportAI, an AI platform for women safety with **steganography-based** SOS, 3D mental health **AI companion**, and **RAG-based** legal bot; **won HackRx 3.0 (300+ teams)**.
- Implemented multimodal AI workfows for text/image generation, severity detection, and culprit matching using **Google Vertex AI, Gemini-1.5-Flash, LangChain, text-embedding-005**, and **Atlas Vector Search**.

Distributed Key-Value Store [Github] *C++, Raft, Distributed Systems*

- Implemented a **fault-tolerant distributed key-value store** in **C++** using the **Raft consensus algorithm**, ensuring **strong consistency and reliability** under node crashes and network partitions.
- Achieved **100% pass rate** on failure-injection tests and sustained **<200ms leader election time** under crash-recovery scenarios across a 5-node cluster.

Privacy-Preserving Liver Disease Prediction [Github, Paper] *Python, Homographic Encryption, Deep Learning*

- Designed a distributed privacy-preserving system for medical inference using **homomorphic encryption, RPC**, and **multi-threading**, ensuring secure computation with only a 0.4% accuracy drop.
- Accepted and published in the **Springer Book Series** \Lecture Notes in Electrical Engineering", ISSN: 1876-1119.

Achievements

- **1st Place, HackRx 3.0**: Nationwide Hackathon by Bajaj Finserv amongst 300+ teams.
- **2nd place, VIT Web Dev Hackathon**: O f cial hackathon of VIT University amongst 100+ teams.