Manish Thapa

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Education

San Diego State University — San Diego, CA
Master of Science in Computer Science | GPA: 3.60/4.00 — *Aug 2025 – **Expected May 2027***

Dr. Ambedkar Institute of Technology
Bachelor of Engineering in Computer Science | GPA: 3.97/4.00 — *Aug 2018 – Aug 2022*

Technical Skills

Languages: Java, Kotlin, Python, TypeScript, JavaScript, Go, C++, SQL
Web & Backend: Spring Boot, Node.js, React, REST APIs, gRPC, WebSockets
Databases & Messaging: PostgreSQL, Cassandra, Redis, Apache Kafka
Cloud & Delivery: AWS, Google Cloud Platform (GCP), Docker, Kubernetes, Terraform, GitHub Actions, CI/CD
Systems: Distributed Systems, Microservices, Event-Driven Architecture, Concurrency, Performance Optimization
Observability: OpenTelemetry, Distributed Tracing, Prometheus, Grafana, ELK Stack
AI & Machine Learning: PyTorch, scikit-learn, Hugging Face Transformers, Retrieval-Augmented Generation (RAG), Embeddings, Vector Search (FAISS)

Experience

Google X, the Moonshot Factory (Alphabet) | Tapestry — Jun 2026 – Aug 2026
Software Engineering Intern

- Designed and delivered a **production pipeline** to validate, enrich, and deploy electrical-grid models across GCP environments, reducing feeder processing time from **over 3 hours to under 1 hour**.
- Implemented schema and topology validation, **idempotent processing**, retries, **failure isolation**, and rollback support for ingestion of hundreds to thousands of XML/GML files per feeder.
- Integrated Kotlin, Java, and Go services using gRPC and PostgreSQL; **automated testing and environment promotion** with GitHub Actions and Terraform.
- Owned **requirements discovery through production handoff**, coordinated cross-team dependencies, documented architectural alternatives, and presented the system to **100+** Tapestry colleagues.

Target Corporation | Priority One Platform Team — Mar 2022 – Jun 2025
Software Engineer

- Developed Java/Kotlin microservices for Enterprise Carts and Checkouts, a platform processing **5M+ daily transactions** and supporting $50B+ annual GMV, with 99.95%+ API uptime.
- Reduced get-cart API **P95 latency from 250 ms to under 80 ms** through Cassandra query optimization, parallel upstream calls with CompletableFuture, and in-memory/Redis caching; sustained gains through Black Friday.
- Drove platform implementation of even and uneven exchanges supporting **100K+ daily exchanges**; defined API contracts, implemented eligibility checks and rollback, and coordinated payment and inventory integration.
- Shaped platform redesign decisions by evaluating Cassandra/PostgreSQL consistency and scalability tradeoffs and advocating Kafka-based asynchronous integrations using production latency evidence.
- Led Next Day Delivery integration across 5+ teams, delivering in 12 weeks and contributing to a **15% increase in delivery conversions**.
- Built autoscout and CI/CD-integrated tests for digital, in-store, and offline workflows, reducing production errors by **15%** and accelerating releases by **30%**; adopted by other teams.

Cognizant Technology Solutions — Jan 2022 – Mar 2022
Software Engineer Intern

- Built Python/Informatica cloud ETL pipelines, improving reporting accuracy by 25% and reducing processing time by 60%.

Softmantissa Technologies — Oct 2021 – Dec 2021
Software Engineer Intern

- Developed customer-facing full-stack features using React and Node.js in an early-stage startup.

Projects

AI Document Assistant | *Python, LangChain, OpenAI API, FAISS, Streamlit* GitHub

- Built and deployed a retrieval-augmented document assistant with semantic search and source-grounded responses, reaching **200+ users** on Streamlit Cloud.
- Optimized FAISS-based vector retrieval, reducing query latency by **40%**.

Real-Time Chat Application | *Java, Spring Boot, WebSockets, Redis, PostgreSQL* GitHub

- Built room-based messaging and file sharing supporting **1K+ concurrent connections**, using WebSockets, Redis caching, PostgreSQL, and Spring Security.

Honors & Awards

- Target: **Quarterly Award**; **two-time hackathon first-place winner** for RAG Slack Bot and Scheduled Scaler.
- **Gold Medal**, Dr. Ambedkar Institute of Technology, 2022; **SDSU Scholarship**: $4,000 per semester; **Mahatma Gandhi Scholarship**: selected from 1,000+ applicants.