Avnee Dadhich

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GitHub | LinkedIn | LeetCode | Codeforces

Education

MBM University Aug 2023 – May 2027
B.E. in Computer Science and Engineering (7th semester, full-time); CGPA: 8.64 (Top 1% of university cohort)
Coursework: Data Structures & Algorithms, Object-Oriented Programming, Operating Systems, Databases
Maharaja Sumer Singh Public School: XII 93.2% | X 94.6%

Technical Skills

Languages & OOP: Python, C++20, Object-Oriented Design, SQL, JavaScript (Next.js), Shell scripting
Fundamentals: Data Structures & Algorithms, Multithreading & Concurrency, Memory Management, Debugging & Performance Profiling
Backend & Web: FastAPI, RESTful APIs, Next.js, PostgreSQL, Redis, Webhooks, Idempotent API design
DevOps & Quality: Docker, CI/CD, Git/GitHub, Linux, Test-Driven Development, pytest, Playwright, LangSmith tracing (monitoring)
AI & GenAI: LLMs, Agentic AI, RAG Pipelines, LangGraph, Vector Search (Qdrant), Guardrails

Experience

Agentic Checkout for E-Commerce (Razorpay Payments Integration) **Aug 2026 – Sept 2026**
Full-stack business application where an LLM negotiates offers but a policy engine controls what is charged
Tech used: Python, FastAPI, LangGraph, PostgreSQL, Redis, Next.js, Razorpay, pytest, Playwright

- Designed and built a FastAPI and LangGraph checkout service in which a deterministic Python policy engine (max discount, margin floor, stock) must approve every LLM-proposed offer before Razorpay is called, keeping the system secure and predictable.
- Integrated Razorpay Payment Links with idempotency keys, deduplicated webhooks and reconciliation instead of blind retries; designed the PostgreSQL schema with inventory holds and append-only audit logs.
- Practiced test-driven development with pytest unit tests and Playwright end-to-end tests covering the full checkout flow, with a Next.js frontend.

DSA Instructor – Nxtwave (Hyderabad) **Jul 2025 – Aug 2025**
DSA and OOP coding curriculum for 75+ students
Tech used: C++, Python, Data Structures & Algorithms, OOP

- Taught DSA and OOP to 75+ students; average test scores improved by 30% in 6 weeks.
- Ran LeetCode and Codeforces workshops on problem-solving and debugging, increasing contest participation by 45%.

Projects

Enterprise Agentic RAG Pipeline **June 2026 – July 2026**
Production-style backend serving LLM question answering over retrieved enterprise context
Tech used: Python, FastAPI, LangGraph, NeMo Guardrails, Qdrant, LangSmith

- Built an agentic RAG backend with FastAPI and LangGraph that serves LLM responses in real time; added NeMo Guardrails to reduce prompt-injection risk and hallucinated responses.
- Implemented Qdrant vector retrieval and an LLM gateway with fallback routing, so requests continue when a model provider fails; added LangSmith tracing to monitor and debug the pipeline end to end.

Concurrent Memory Allocation Engine **May 2026 – June 2026**
Lock-free memory allocator for multi-threaded, performance-critical systems
Tech used: C++20, std::atomic, cmpxchg16b, multithreading, Linux/OS concepts

- Implemented a lock-free, multi-threaded memory allocator using thread-local caching and 128-bit atomic CAS (cmpxchg16b) to handle the ABA problem.
- Optimized performance by removing false sharing with cache-line alignment (alignas(64)); in a 16-thread stress test on Windows, it ran about 7% faster than native malloc at 106M+ ops/sec.

Achievements

- LeetCode Knight (max rating 1877), Codeforces Specialist (max 1417); global ranks 189 and 406 in LeetCode Weekly Contests 507 and 508.
- Meta Hacker Cup 2025: Global Rank 2726. TechGig Gladiators: Top 0.2% in algorithmic and software engineering contests.
- Amazon ML Summer School 2025: Selected for the program on ML models, optimization, and AI frameworks at scale.
- Smart India Hackathon 2024 (Semi-Finalist): working prototype for a government problem statement, built in a team. NTSE National Scholar (2021).