Akul Chordia

US Citizen | akulchordia04@gmail.com | linkedin.com/in/akul-chordia | github.com/Akul-Chordia

Education

B.Tech Computer Science and Engineering	Vellore Institute of Technology, Vellore	8.24/10 (3.56/4)	*2022 – 2026*
Diploma, Data Science and Programming	Indian Institute of Technology, Madras		*2022 – 2024*
High School Diploma	Rockwoods High School, Udaipur	91.4%	*2017 – 2022*

Work Experience

EaseLearn AI *Head of AI* — *July 2025 - Current* — *link*

- Reduced jailbreak vulnerabilities by ~85% by engineering a multi-stage defense pipeline that utilized prompt analysis, fine-tuned guardrail models, and topic restriction to create an enterprise-grade secure AI infrastructure.
- Cut query latency 40% by implementing a scalable routing pipeline with asynchronous processing and optimized model selection logic; system has 20k+ users.

NSE Indices Ltd. *Research Intern* — *May 2025 - July 2025* — *link*

- Benchmarked 12+ providers to identify white-space opportunities in index design; directly contributed to strategy for new product lines where NSE had no presence.
- Collaborated on algorithmic design, development and back testing of prototype indices, evaluating performance and market fit;
- Delivered final presentation on findings and recommendations to the CEO, VPs, and Director of NSE Indices, shaping senior leadership's roadmap for future index offerings.

Particle Black *Data Analyst Intern* — *Feb 2025 – May 2025* — *link*

- Engineered a machine learning pipeline using scikit-learn to predict real-estate sales, encompassing data ingestion, model training, and validation; application in property valuation and credit risk modeling.
- Built features from raw listing data (location, price, attributes, historical sales); framework extendable to large-scale asset pricing.

Projects

OrderBook (C++) — *link*

- Built a high-performance multi-threaded order book supporting multiple order types with a custom price–time priority matching engine.
- Simulated realistic exchange microstructure by enabling concurrent agents, order flow dynamics, and strict FIFO queueing.
- Designed memory-safe, modular architecture (smart pointers, layered abstractions) for speed and extensibility.

CPU Simulator (C++) — *link*

- Engineered a functional CPU from first principles using only AND/NOT gates; implemented custom assembly language.
- Implemented a comprehensive CLI with program loading, step-by-step debugging, register status monitoring, and execution control
- Foundation for educational tools, hardware simulation, or low-level system research.

Shopeasy (Flutter) — *link*

- Architected a low-latency event-driven pipeline using Cloud Firestore for instant real-time cart synchronization for a retail system
- Achieved 70% higher checkout throughput and reduced manpower requirements by 80% during testing
- Prototype demonstrates potential for scaling to full smart-retail infrastructure.

Narrative Game Engine (C++) — *link*

- Ported Windows-based OpenGL engine to macOS reworking windowing, input, and rendering backends.
- Project illustrates adaptability in systems-level engineering; foundation for future cross-platform engines

Others

Options Pricing (C++) (Black-Scholes, Binomial models and Monte Carlo Simulations) | Robinhood style option payoff graph (Python)
Auction-style price discovery simulation (Python)(Maximizing fills at an auction) | Statistical Arbitrage - Pairs Trading Strategy (Python)
Bettr – custom contract betting (Django) | FOCUS – LLM based ADHD diagnosis (Flask)

Achievements

Hackathons — *link*

- Central hack – VIT'S BIGGEST FLAGSHIP HACKATHON – Flutter+Firebase edge based IoT project — Winner
- Electra 2024 - Flask webapp to diagnose of mental disorders using AI — Winner
- ACM open reverse coding competition 2023 – C, C++ competitive coding competition — Second Runner-up
- IIT Madras Deepracer 2023 - Engineered sophisticated self-driving ml models — Winner

VIT Debate Club - *Senior Core* - Led one of India's largest debate clubs; organized and competed in global tournaments; Mentored and judged school teams; developed a scalable outreach model for competitive debate training.

Technical Skills

Languages - C++, Python, R, C, SQL, Java
Academic - Operating Systems, Compiler Design, Data Structures & Algorithms, Database Management Systems, Financial Analytics
Systems & Tools - Git, Linux, Unix, Streamlit, Tableau, PowerPoint, Excel, AWS, Shell Scripting, VBA
Finance and Data - Options Pricing, Monte Carlo Simulation, Statistical Arbitrage, Time Series Analysis, Portfolio Optimization
Other - API Integration, Web Scraping, RESTful Systems, Low-Latency Data Pipelines