NEELABH VIJAYVARGIA

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EDUCATION

The University of Texas at Austin   **Aug 2023 - May 2027**
*BS. Mathematics, BBA. Canfield Business Honors | **Minor:** Computer Science*   *GPA: 3.9/4.0*
- **Coursework**: *Data Structures and Algorithms, Databases, Machine Learning, Discrete Math, Data Science, Statistics, Probability, Linear Algebra, Vector Calculus, Calculus I–III, Physics*

EXPERIENCE

Capital One   Jun 2025 – Aug 2025
Software Engineer Intern   *Plano, TX*
- Built event-driven backends in Node.js/Go to auto-register 5,000+ new services into internal observability platform
- Automated generation of YAML config files, enabling teams to define monitoring needs with zero-touch deployment
- Deployed on AWS Lambda and Fargate, enabling stateless scalability, low latency, and 99.9%+ system uptime

Phenom (Austin Start Up)   Aug 2024 – Dec 2024
Software Engineer Intern   *Austin, TX*
- Developed and deployed payments API using Stripe API and GraphQL, reducing processing time by 30%
- Developed interactive React components such as dynamic form validation, which reduced user drop-off by 15%
- Reduced server load by 20% by leveraging AWS Lambda and used Amazon S3 for secure storage of data

University of Texas - Austin   Aug 2025 – Present
Teaching Assistant – Predictive Analytics   *Austin, TX*
- Held office hours to support 150+ students learning Python, Statistics, Machine Learning, and Linear Algebra
- Graded coursework, exams, and predictive modeling projects and helped students debug and tackle projects

PROJECTS

URL Shortener | *Go, Redis, Docker, React*
- Designed Go-Fiber based backend with Redis caching and rate limiting, capable of handling 1,000+ req/s
- Containerized full application with Docker, reducing setup inconsistencies and deployment time by 40%
- Built complete front-end with four different screens using React, creating intuitive user experience

Lock-Free Order Matching Engine | *C++*
- Developed lock-free order book using atomic operations, enabling 4 threads to match trades at 50k orders/sec
- Implemented cache-aligned memory pool to eliminate dynamic allocations, reducing order processing time by 25%
- Conducted multi-threaded stress tests with synthetic order streams at 120 k orders/sec, validating engine stability

Minerva (AI Teaching Assistant) | *Flask, LlamaIndex, GPT API*
- Built AI Teaching Assistant with RAG model to read context from over 1,000 class documents to generate reviews
- Built scalable knowledge base by integrating LlamaIndex with GPT API, streamlining semantic retrieval by 30%
- Integrated with Google Classroom through engineering REST APIs in Flask, improving user experience by 40%

Truth Social Sentiment Trader | *Scikit-Learn, Beautiful Soup, Hugging Face, Pandas*
- Scraped and processed 30,000+ posts from Truth Social using BeautifulSoup, implementing pipeline to clean data
- Implemented MiniLM embeddings to categorize posts and determine average sentiment scores across 4 buckets
- Built Python backtesting engine using Polygon API and Pandas to observe 4% monthly returns on BTC and SPY

TECHNICAL SKILLS

Languages: Python, C/C++, Golang, JavaScript, TypeScript, Java, SQL, R, HTML/CSS
Technologies: AWS, React, Docker, DynamoDB, Scikit-Learn, Pandas, TensorFlow, Numpy, Redis, PostgreSQL, Git
Interests: Christopher Nolan Movies, Cooking, Escape Rooms, Jigsaw Puzzles and Rubik's Cubes