DHRUV VAGHASIYA

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EXPERIENCE

Co-Creator | **Founding Engineer** Mar 2024 - July 2024

Wizoona

- Led a cross-functional team of **20+** to build an upskilling platform, overseeing research, engineering, and design execution.
- Architected distributed system architecture with microservices and REST APIs, achieving **5ms** response time for critical user flows.
- Implemented **2-week Agile sprints** and roadmap planning, reducing feature delivery time from **21 days** to **14 days.**
- Created structured onboarding and documentation systems, cutting ramp-up time for new developers from **2 weeks** to **4 days**.

Project Manager Dec 2023 – July 2024

Foruppo

- Led end-to-end delivery of an AI chatbot platform, managing roadmap, sprints and alignment across engineering, design and QA.
- Oversaw **10+** engineers building LLM-powered microservices, maintaining **99.8%** uptime and delivering scalable deployments.
- Reduced sprint cycle time from **4 weeks** to **2.5w** by introducing story point estimation, async standups and backlog grooming.
- Engineered team growth by implementing structured hiring, onboarding, and mentorship processes, resulting in a **47%** increase in execution velocity.

Software Development Engineer Oct 2021 – Dec 2023

Lama Consultant – Core Engineering Team

- Developed and launched a **full-stack ERP system** using **React.js** and **TypeScript**, automating key workflows and improving UI responsiveness to streamlining business operations and **cutting operational overhead** by **35%.**
- Designed scalable **Node.js** microservices (later switched to **FastAPI**) to reduce API latency from **2s** to **490ms** in key workflows.
- Optimized performance of **PostgreSQL**-backed dashboards by **60%** through advanced **query tuning**, materialized views, and implementation of **partial** and **composite indexing** strategies.
- Led migration from monolithic services to **Docker/Kubernetes**, boosting uptime to **99.95%** and improving fault tolerance.

Lama Consultant – Quantitative Trading Initiative (Internal R&D)

- Launched a quantitative trading initiative under internal R&D, creating proprietary algorithms delivering **22%** annual **ROI**.
- Wrote **C++ & Python** scripts to simulate trading strategies on historical market data, enabling rapid iteration, hyperparameter tuning, and validation against multiple market regimes.
- Engineered an algorithmic trading system using the **Kite API**, processing **15K+** market data points/day, integrating real-time order placement, and optimizing network latency to improve execution speed by **70%**. Built retry logic, **order book tracking**, and **slippage control** to ensure robust performance under live market conditions and to minimize market impact during active trading.

SKILLS

Python, TypeScript, JavaScript, SQL, C++, React.js, FastAPI, Node.js, PostgreSQL, Docker, AWS, Git, NumPy, Pandas, Scikit-learn, Redis, Statistical Arbitrage, Options Pricing, Time Series Analysis, REST APIs, Probability Theory, Stochastic Calculus, Linear Algebra

PROJECTS

QuantSphere | *Python, C++, FastAPI, PostgreSQL, Next.js, Reinforcement Learning*

- Engineered an AI-driven options simulator with 10 years of minute-level historical and news data, enabling user-driven **market replay**, **trade simulation** and **backtesting** across time windows via an interactive dashboard with real-time order book tracking.
- Implemented **Black-Scholes model** for dynamic **European options pricing**, deriving real-time Greeks and adjusting for historical volatility clusters, **expiry variations**, and intraday regime shifts.
- **Trained reinforcement learning agents** to simulate volatility regimes and order flow, and integrated a learning module to help users explore option behavior under different market conditions.

NeoMyst | *TypeScript, React, FastAPI, PostgreSQL, Docker, AWS*

- Built **full-stack ML learning platform** with **gamified UI**, using **TS** frontend and **FastAPI** for backend logic and model execution.
- Structured modular, story-driven lessons covering data preprocessing, EDA, regression, and classification, with real-time model feedback and thorough testing practices achieving **90%** coverage using **Pytest** and **Vitest**.
- Deployed platform using **Docker** and **AWS**, with secure APIs, PostgreSQL integration, and CI/CD pipeline for automated updates.

AlumNext | *Next.js, Express.js, MongoDB, NextAuth, Agile*

- Led a team of 4 to build a role-based **alumni platform**, overseeing **Figma prototyping** to full-stack **deployment**.
- Designed and implemented dashboards for alumni, students, and faculty, enabling messaging, event registration, mentorship requests, and referral support.
- Built the application using **Next.js**, **Express.js**, **MongoDB**, and **NextAuth**, with secure routing and responsive UI components.

MolecuSprint | *Python, Bash, Pandas*

- Automated extraction and organization of key simulation outputs from 15,000+ GROMACS trajectory and log files.
- Analyzed molecular stability and thermodynamic trends using **RMSD**, **RMSF**, energy profiles, temp/pressure logs with **Pandas**.
- Reduced processing time from several **days** to under **one hour** using Bash scripting, parallelization, and file I/O optimization.

EDUCATION

Virginia Tech Alexandria, VA

Master of Engineering in Computer Science *May 2026*