Parthiv Shah

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Education

University of North Carolina At Chapel Hill **August 2022 - December 2025**
Bachelors/Masters of Science in Computer Science + Statistics *Chapel Hill, North Carolina*

Relevant Coursework: Linear Algebra, Intro to Optimization, Data Structures, Intro to Deep Learning, Machine Learning, Stochastic Modelling, Blockchain Technologies and Cryptocurrencies, Database Systems

Technical Skills

Languages: Go, Python, C++, C, Java, JavaScript/TypeScript, SQL
Technologies/Frameworks: AWS (EC2, Lambda, S3, DynamoDB), Azure, PostgreSQL, CockroachDB, Node.js, TensorFlow, Docker

Experience

Microsoft Azure **May 2025 – August 2025**
Software Engineer Intern (Infra) *Redmond, Washington*

- Redesigned a C# caching system handling 2.35M retries/day, cutting storm traffic by 80% and stabilizing Azure Fabric services — enabling downstream product teams to ship features without outages
- Implemented scoped cache invalidation (User / Artifact / Connection) to prevent cross-user blocking and tune memory use, lowering retry storm risk by 50%.
- Ran A/B telemetry experiments on caching redesign, quantifying a 6x drop in escalations and eliminating recurring multi-hour outages — improving developer velocity and reliability for cross-team workflows.

Lenovo **May 2024 – August 2024**
Data Engineer Intern (Infra) *Raleigh, North Carolina*

- Built NLP ingestion pipeline (pandas/TensorFlow) extracting finance data with 80%+ accuracy, giving operations teams faster insights and reducing manual handling of invoices
- Vailidated reconciliation model that automated cross-ledger checks, reducing manual review workload by **70%** and surfacing anomalies for finance teams.

Amazon Web Services **May 2023 – August 2023**
Software Engineer Intern *Seattle, Washington*

- Developed low-latency telemetry API integrating PMET + NIMUE, reducing query latency 40% and enabling real-time observability at scale (10K+ EC2 hosts), improving infra efficiency, cost control, and time-to-resolution on production incidents.
- Refactored serverless Lambda back end to eliminate misallocated ICE spot instances, cutting wasted compute by 50% and reducing cost and latency.

Projects & Research

MTA Congestion Zone (Point72) | *XgBoost, Python* 2025

- Placed 3rd out of 200+ participants in Point72-sponsored competition focused on real-world financial prediction and infrastructure
- Developed an interactive congestion dashboard (Streamlit + React) that visualized NYC traffic patterns through heatmap-based predictions in real time.
- Trained XGBoost models to predict optimal entry points based on historical congestion data, improving forecast accuracy by 25%.

Casca (YC Fintech) | *FastAPI/TensorFlow/Python/React* 2025

- Built loan risk evaluation platform processing 1000+ records, modeling default probabilities and portfolio loss distributions in real time.
- Engineered Cash Flow Risk Score (CFRS) system combining Random Forest + regression-based interest rate forecasts, enabling scenario testing of portfolio default risk under changing macro conditions
- Deployed frontend on Vercel with React + Node.js backend, adding transparent audit logs for traceable loan validation.

BookTrades | *React/Flutter/Firebase* 2022

- Built a cross-platform contracting app in Flutter (Dart), enabling users to connect contractors with clients across iOS and Android.
- Integrated Firebase Cloud Messaging for real-time notifications and chat between users.
- Collaborated closely with the design engineer in Figma to translate UI/UX mockups into interactive, production-ready features

Leadership

Offical Vogro **March 2022 – Current**
Creator
* Created and launched a healthcare support app (Flutter, iOS/Android) reaching 1,000+ users, coordinating non-clinical patient services during COVID-19.