Gokul Vasudeva

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EDUCATION

Master of Science in Computer Science — **Expected May 2025**
Arizona State University — **Tempe, USA**
- Foundations of Algorithms, Distributed and Multiprocessor operating systems, Multimedia & Web Databases

Bachelor of Engineering in Computer Science and Engineering — **August 2020**
PES University — **Bengaluru, India**
- Algorithms, Data Structures, File Structures, Computer Networks, OOPs, Design Patterns, Operating Systems, DBMS, Data Mining, Big Data Analytics, Machine Learning, Artificial Intelligence, Web Development, Information and Network Security

TECHNICAL SKILLS

Languages & Build Systems - C, C++, Java, Go, Python, Rust, JavaScript, TypeScript, Bazel, Gradle, PNPM, Jenkins, Bash, Groovy.
Libraries - Node.js, React, Angular, Highcharts, Playwright, Jest, JUnit, GTest, Express.js, FastAPI, Flask, Spring Boot, Thrift, gRPC, Keras, Tensorflow, PyTorch, TorchVision, Numpy, Pandas, Scikit-learn, MLPack, OpenCV, Sktime, Facebook (Kats, Prophet), Greykite.
Cloud Native & Paradigms - AWS (EKS, S3, Lambda, SageMaker, MSK, RDS), Grafana, Prometheus, Elastic Search, Kibana, Docker, Kubernetes, DataRobot, ThoughtSpot, Miro, Figma, Mixpanel, Git, GraphQL, REST, Micro frontend, Micro service, AutoML.
Data - Apache (Tomcat, Spark, Cassandra, Hadoop, Kafka, ZooKeeper, Solr, Airflow), PostgreSQL, MySQL, Redis, MongoDB, Celery.

EXPERIENCE

Member of Technical Staff 4 — **February 2023 - July 2023**
ThoughtSpot — **Bengaluru, India**
- ThoughtSpot is a fast paced BI product company solving natural language search and leveraging generative AI to unearth insights from data; I was responsible for SpotIQ, ThoughtSpot's AI engine, building and scaling ML insight generation.
- By the end of tenure, I drove technical decision making and led efforts to re-architect SpotIQ, with 300+ commits in one year.
- Working in multiple frontend, backend and ML stacks, I integrated DataRobot end-to-end into ThoughtSpot. Expanded our in-house AutoML engine Cortex to support multi-tenant containerization, designed data caching, transport and all major flows.
- Designed contextual key driver analysis explaining unexpected changes in customer metrics; leveraged LLM gateways for prompt engineering insight narratives; drastically cut down SpotIQ tech-debt; Improved time-series forecasting reliability.

Member of Technical Staff 3 — **August 2022 - January 2023**
ThoughtSpot — **Bengaluru, India**
- Incubated and built SpotIQ Cortex, a highly scalable general-purpose time series forecasting and anomaly detection service with heterogeneous model orchestration, including model ensembling, invalidation and retraining on new data ingress.
- Cortex allowed us to dynamically forecast and predict customer KPIs, enabling anomaly based alerting and better insights.
- Conceptualized and implemented custom time period comparison and live monitoring on non-Gregorian time series KPIs.

Member of Technical Staff 2 — **May 2021 - July 2022**
ThoughtSpot — **Bengaluru, India**
- Made major improvements to SpotIQ's C++ codebase including error tolerance and test coverage. Caught and fixed a large number of critical bugs, allowing for new use cases by increasing query efficiency over CDWs along with SpotIQ's reliability.
- Developed SpotIQ's V2 experience, took ownership of Comparative and R Analysis; Improved schema management in a cron scheduler written in Go; Reduced build times by optimizing rule execution in Bazel; Wrote Jenkins pipelines for data ETL.

Software Engineer — **November 2020 - April 2021**
Societe Generale — **Bengaluru, India**
- Developed an analytics platform for performance reports, orchestrating self-healing and automations through Azure. Created a universal quiz and survey platform using the MERN stack, with anti-cheat and asynchronous session persistence.

PROJECT EXPERIENCE

- MonoDAC - A monocular image depth estimation system by training a modified DeepLabv3+ encoder decoder, applying a convolutional DNN, employing atrous convolutions, ASPP and an XCeption feature extraction network, with 3D point cloud visualization. Created an accompanying web platform supporting real-time wireless image capture and depth inference.
- Crypticket - An offline capable cryptographic ticket generation and authentication platform using service workers and local storage caching. Developed as a responsive PWA from scratch using React, utilizing EdDSA elliptic curve cryptography.
- Wuasta - A predictive alarm app, pragmatically rings at the right time, taking into account real-time traffic conditions and historical data. Utilizes Google Maps Distance Matrix API and a recursive optimization algorithm to find the ideal time a user needs to depart from a location to arrive at another location at a predefined time.
- Authored several technical and philosophical posts on programming, designs, concepts, and challenging problems I've faced. Open sourced the implementations of novel algorithms, scripts, and solutions to competitive problems.

AWARDS & HONORS

Cortex: Mine actionable insights on key metrics from freshly ingested data | US Patent and Trademark Office — **May 2022**
- Co-invented Cortex, a novel paradigm for anomaly detection through time series forecast deviations and AutoML.

R&D Excellence Award | ThoughtSpot — **March 2022**
- Took strong ownership of SpotIQ. Was consistent on high impact deliverables with diligence, customer empathy and agility.

First Place | InGenius Hackathon — **September 2017**
- Built an Android app that utilized Google Maps APIs to find an ideal meet up location considering time-to-reach.

Honorary Award | HP CodeWars — **December 2015**
- Solved the toughest problem in the shortest time, competing against 300+ peers.