

# Gokul Vasudeva

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## EDUCATION

### Master of Science in Computer Science

Arizona State University

Expected May 2025

Tempe, USA

### Bachelor of Engineering in Computer Science and Engineering

PES University

August 2020

Bengaluru, India

## TECHNICAL SKILLS

**Languages & Build** - C, C++, Java, Go, Python, Rust, Scala, JavaScript, TypeScript, Bazel, Gradle, NPM, Jenkins, Bash, Groovy

**Libraries & AI** - Node.js, React, Angular, Highcharts, Recharts, Playwright, Express.js, FastAPI, Flask, Spring Boot, Nginx, Thrift, gRPC, Keras, Tensorflow, PyTorch, TorchVision, Numpy, Pandas, MLPack, OpenCV, Sktime, Kats, Prophet, Greykite

**Cloud** - AWS (EC2, EKS, ECR, EMR, S3, Glue, Lambda, SageMaker, MSK, RDS, SQS, SNS), Grafana, Prometheus, Elastic Search, Kibana, Docker, Kubernetes, Hugging Face, DataRobot, Datadog, Miro, Figma, Git, GraphQL, REST, Micro service, AutoML

**Data** - Tomcat, Spark, Cassandra, Hadoop, Kafka, ZooKeeper, Solr, Airflow, PostgreSQL, MySQL, Redis, MongoDB, Celery, Qdrant

## EXPERIENCE

### Software Engineering Intern

Apple

May 2024 - August 2024

Cupertino, USA

- Championed and built a new GenAI powered web platform for ad metrics analysis, anomaly detection, campaign attribution with auto incident annotation and recall through Retrieval Augmented Generation (RAG), leveraging Apple's foundation large language models. Set up associated OAuth and pipelines for containerization, CI/CD and deployments on EKS using Jenkins and Spinnaker.

### Member of Technical Staff 4

ThoughtSpot

February 2023 - July 2023

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 GPT LLMs for prompt engineering insight narratives. Drastically cut down SpotIQ tech-debt, resulting in team-wide productivity improvements.

### Member of Technical Staff 3

ThoughtSpot

August 2022 - January 2023

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

ThoughtSpot

May 2021 - July 2022

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

Societe Generale

November 2020 - April 2021

Bengaluru, India

- Built an analytics platform on Azure. Created a quiz and survey platform on the MERN stack with asynchronous session persistence.

## PROJECT EXPERIENCE

- MonoDAC** - A monocular depth estimation system using a modified DeepLabv3+ encoder decoder, employing Atrous Convolutions and ASPP, along with a web platform for real-time wireless image capture, depth inference and 3D point cloud visualization.
- 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 that pragmatically rings at the right time, taking into account real-time traffic conditions and historical data. Utilizes Distance Matrix APIs to find the ideal departure time 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.

## PUBLICATIONS & AWARDS

### 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.