GOKUL VASUDEVA

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EDUCATION

Bachelor of Engineering in Computer Science and Engineering | PES University, ECC, Bengaluru, India **Aug 2020**

- *Courses*: 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.

Pre-University, Indian School Certificate (ISC) | Bethany Junior College, Bengaluru, India **May 2016**

- *Courses*: Physics, Chemistry, Mathematics, Computer Science, English.

SKILLS

Languages & Build Systems: C, C++, Java, Python, Go, Bash, Groovy, JavaScript, TypeScript, Bazel, Gradle, NPM, Jenkins.
Libraries: Express.js, Node.js, React.js, Highcharts, Protractor, Jest, Jekyll, FastAPI, Flask, Keras, Tensorflow, Numpy, Pandas, Scikit-learn, MLPack, OpenCV, Sktime, Facebook Kats, Facebook Prophet, Greykite.
Technologies: Git, GraphQL, REST, Micro frontend, Microservice, PostgreSQL, MySQL, Redis, Cassandra, MongoDB, Kafka, Celery, AWS, Grafana, Prometheus, Elastic Search, Kibana, ZooKeeper, Docker, Kubernetes.

PROFESSIONAL EXPERIENCE

Member of Technical Staff IV | ThoughtSpot **Feb 2023 – Present**

- Drastically cut down **SpotIQ tech debt**, and made **major qualitative improvements** to **time series forecasting** in Cortex.
- Solutioned and built **Contextual Key Driver Analysis** from the ground up in order to explain unexpected changes in customer data.

Member of Technical Staff III | ThoughtSpot **Aug 2022 – Jan 2023**

- Incubated and developed **SpotIQ Cortex**, a 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 **forecast** and **predict customer KPIs**, enabling **anomaly based alerting** and **better insights**.
- Conceptualized, designed and developed **custom time period comparison** and **live monitoring** on **non-Gregorian** time series KPIs.

Member of Technical Staff II | ThoughtSpot **May 2021 – Jul 2022**

- **SpotIQ** is ThoughtSpot's **AI** driven analytics engine built in **C++**, where I worked towards **improving relevancy** of **AI generated insights** by **statistically modelling salient metrics** and writing **optimization algorithms** to improve **querying efficiency** over cloud-connected data stores.
- Made major **improvements** to the **SpotIQ codebase**, **error tolerance**, and **test coverage**. Caught and **fixed a large number** of **critical bugs**, all of which allowed for **new use cases** and massive **improvement** to **SpotIQ reliability**.
- **Took ownership** and was the **POC** for **SpotIQ Comparative Analysis**, significantly improving it in the process. Worked on improving a **scheduler** built using **Go**. Built **Jenkins pipelines** for performing **ETL** on testing metrics from **Gradle**.
- **Took complete responsibility** for and **developed** the v2 implementation of **SpotIQ R Analysis**. Improved the **Bazel build system**.

Software Engineer | Société Générale **Nov 2020 – Apr 2021**

- Built a **data analytics platform** for performance reports, orchestrating **self-healing** and **automations** through **Azure**. Developed a **RESTful** universal quiz and survey platform using the **MERN stack**, with anti-cheat measures and asynchronous session persistence.

PROJECTS AND CONTRIBUTIONS

- **Crypticket -** A **fully offline** capable **cryptographic ticket generation** and **authentication** platform using **Service Workers** and **Local Storage** caching. Built as a **responsive PWA** from the ground up using **React**, utilizing **EdDSA Elliptic Curve Cryptography**.
- **MonoDAC-** A **Monocular Image Depth Estimation** system by training a modified **DeepLabv3+ encoder decoder**, utilising a **Fully Convolutional Deep Neural Network**, employing **Atrous Convolutions**, **ASPP** and an **XCeption** feature extraction network, with **3D Point Cloud** visualization. Developed an accompanying **web platform** supporting **real-time** wireless image capture and depth inference.
- **Wuasta -** Built a **Predictive Alarm Assistant** as an **Android app**, which pragmatically wakes you up at just the right time, taking into account **real-time traffic conditions** and **historical data**. It utilized **Google Maps Distance Matrix API** and a **recursive optimization** algorithm to find the **optimal time** at which a user needs to depart from a location to arrive at another location at a predefined time.
- **YTrendNet -** Analyzed a YouTube video interaction dataset and trained an **Artificial Neural Network** to infer how long a YouTube video stays trending by pre-processing and converting relevant features into latent space, and one hot encoding the result.
- 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.

ACHIEVEMENTS AND AWARDS

HP Code Wars | Honorary Award **Dec 2015**

- For solving the **most difficult** coding problems in the **shortest time vs 300 teams**.

InGenius Hackathon | 1st Place Award **Sep 2017**

- Built an **Android app** utilizing **Google Maps APIs** to find a group **meet up location** considering **real-time traffic conditions**.

ThoughtSpot | India R&D Excellence Award **Mar 2022**

- For taking strong ownership of SpotIQ and consistency in delivering on high impact deliverables with diligence and customer empathy.

US Patent and Trademark office | Mine actionable insights on key metrics from freshly ingested data **May 2022 - pending**

- Co-inventor of Cortex, using which anomalies can be detected through time series forecast deviations.