GOKUL VASUDEVA

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EDUCATION

Bachelor of Engineering in Computer Science and Engineering GPA: 8.3/10 **Aug 2020**

PES University, VTU, Bengaluru, India

- *Courses*: Design and Analysis of 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, ISC Percentage: 92% **May 2016**

Bethany Junior College, Indian School Certificate (ISC), Bengaluru, India

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

SKILLS

Domains: Full Stack Software Development, Software Engineering, Deep Learning/Machine Learning, Distributed Systems.
Languages & Frameworks: C, C++, Java, Python, Go, JavaScript, TypeScript, Express JS, Node JS, React JS, Flask, Git, Bash, Groovy.
Libraries & Technologies: Keras, Tensorflow, Numpy, Pandas, Scikit-learn, MLPack, OpenCV, GraphQL, PostgreSQL, MySQL, Redis, Cassandra, MongoDB, Kafka, AWS, Grafana, Prometheus, Elastic Search, Kibana, Jenkins, Bazel, Gradle.

PROFESSIONAL EXPERIENCE

Member of Technical Staff II | ThoughtSpot, Bengaluru, India **May 2021 – Present**

SpotIQ | Backend Developer

- **SpotIQ** is ThoughtSpot's **AI** driven analytics engine built in C++, where I worked towards **improving relevancy** of in-memory **AI generated insights** by **statistically modelling salient metrics** and writing **optimisation algorithms** to improve **querying efficiency** over cloud-connected data stores. Introduced a **machine learning library** to replace handwritten statistical modelling logic.
- Spearheaded and **took ownership** of migrating SpotIQ to v2, which involved building a **robust set of high throughput APIs** to **merge complex functionality** by interfacing with multiple services, unlocking **new features** and **improving ROI**.
- Drastically **improved SpotIQ codebase** and **testing**, improved **query efficiency** and **error tolerance**, 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 comparative analysis in the progress. Worked on improving a **scheduler** built using **Go**. Built **Jenkins pipelines** for performing **ETL** on testing statistics from **Gradle**.
- **Incubated** and **developed SpotIQ Cortex**, which is an all-in-one **machine learning** and **deep learning data modelling and sampling** system with **model repository management** including **model invalidation and resampling** on new data ingress. Cortex allowed us to **forecast** and **predict customer KPIs** unlike anything else on the market, allowing for **threshold based alerts** and **better insights**.

Software Engineer | Societe Generale, Bengaluru, India **Nov 2020 – Apr 2021**

Digital Workplace Services | Fullstack Developer

- Built a **proactive data analytics platform** for performance reports and scrubbing support tickets, orchestrating **self-healing scripts** and **automations** through **Azure Cloud Services**. Designed and developed a fully **RESTful** universal Quiz and Anonymous Survey Platform using the **MERN stack**, with robust anti-cheat measures and asynchronous session persistence. Collaborated on augmenting the internal asset management platform with a task verification queue microservice using **Kafka**.

PROJECTS AND CONTRIBUTIONS

- **Crypticket -** Designed and built a **fully offline capable** Cryptographic ticket and password generation and management and verification platform by using **Service Workers** and **Local Storage** caching. Built as a **Responsive** Progressive Web App from the ground up using **React**, utilising **EdDSA Elliptic Curve Cryptography** for digital signature generation and verification.
- **MonoDAC-** Developed a **Monocular Image Depth Estimation** system by training a modified **DeepLabv3+ encoder decoder** network, utilising a **Fully Convolutional Deep Neural Network** (FCDNN), employing **Atrous Convolutions** and **Atrous Spatial Pyramid Pooling** (**ASPP**) and a modified **XCeption** feature extraction network, with **3D Point Cloud** Visualisation. Achieved an **ARD of 0.1271** and an **RMS Log of 0.072**. 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 utilises **Google Maps Distance Matrix API** and a **recursive optimisation** 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 -** Analysed 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.

Technical Blog and Open Source

- 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**. Received an on the spot job offer post-graduation.

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

- For **Triangle**, a **geo location distance vector** based **Android app**, a precursor to **Wuasta**, in the 1st year Category. It utilised **Google Maps Places API** to **triangulate** an **ideal meet up location** based on the locations of a group of users, and finding the **centroid**, **weighted** according to **real-time traffic conditions**.