

Komal Venugopal Vattumilli

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Education

Master of Science in Computer Software Engineering

Aug 2023 – Dec 2024

San Jose State University, United States of America

GPA: 4.00/4.00

Activities: Graduate Research Assistant (GenAI), Web Developer (ISO), Adobe Student Ambassador, iSucceed Peer Mentor

Bachelor of Technology in Computer Science Engineering

Jun 2017 – May 2021

Vellore Institute of Technology, India

GPA: 4.00/4.00

Technical Skills

Tech Stack: Java, Python, Go, Scala, C++, TypeScript, HTML/CSS, PHP

Web Technologies: Node.js, Spring Boot, Flask, React.js, Angular, GraphQL, REST API, Mockito, Junit

Cloud and Databases: Amazon Web Services (AWS), Microsoft Azure, Mongo DB, MySQL, Cassandra, Redis

DevOps: Jenkins, Docker, Kubernetes, Ansible, Git, Linux, Datadog, ELK, Grafana

ETL: AWS(S3, Athena, EMR, Lambda, EC2, Redshift, QuickSight), Apache Spark, Kafka, Airflow, Hadoop, Hive, Snowflake

Experience

Software Engineer Intern | Salesforce

May 2024 – Present

- Built a **Java** service using **Elasticsearch**, **Splunk** to monitor 1,000+ gate values with **gRPC** across multiple data centers, improving visibility by 90% and implemented testcases using **Mockito**.
- Designed Responsive **ReactJS** dashboards using **Chart.js** for interactive data visualization & deployed it using **Jenkins**.
- Developed a self-service automated remediation action workflow to restart webserver using **Python3**, **React.js**, **Grafana**, and **Shell**. Deployed the bots as **Kubernetes** pods in **AWS** and implemented machine learning models to predict failures, boosting service uptime by 65%.
- Implemented a **distributed system** framework in Java for data storage in AWS S3 and Alicloud for metadata management, parallel to on-premises servers (FS3) and **MySQL**, employing **Terraform** and Ansible for Infrastructure as Code (IaC).

Software Development Engineer | Headout

Mar 2023 – Jul 2023

- Migrated API authentication and authorization to AWS API Gateway with **SpringBoot**, **Mongo**, **OAuth2**, and **Cognito**. Implemented account locking after multiple failed logins & replaced AWS access keys with IAM roles for enhanced security.
- Enhanced backend microservices using Spring Boot, creating **REST** and **SOAP APIs** for user-heavy tasks like campaign publishing and report generation. Implemented **GraphQL** for data queries, integrated **MongoDB** for data storage, and used Spring scheduling for async task execution and status updates, reducing task completion time by 40%.
- Delivered serverless solutions using **AWS Lambda** and SQS for cache clearance in EC2 hosts with **Node.js** and **Redis**, integrated a **React portal** for monitoring, and deployed in **EKS** using **ArgoCD**

Software Development Engineer | Jivox Corporation

Jan 2021 – Mar 2023

- Built **Golang** backend microservices to handle ad bidding and delivery, supporting 50K requests per second with low latency. Deployed these services in **Kubernetes** clusters using **ArgoCD Helm charts**.
- Implemented Redis caching to store frequently accessed ad metadata, reducing db load and improving serving speed by 50%.
- Optimized **MySQL** schemas for storing ad campaign data, reducing query execution time by 30% & ensuring data integrity.
- Orchestrated Apache Airflow pipelines for Apache Spark Streaming application to push ad performance metrics from **Kafka** to **AWS S3** and Snowflake using **AWS EMR** facilitating real-time data aggregation and report generation.
- Utilized **Terraform**, Ansible to automate the **AWS** infra provisioning and created **Jenkins** CI/CD pipelines to automate the testing and deployment of microservices, decreasing deployment time by 40% and used Datadog, Grafana for monitoring.
- Used **TypeScript** to build a dynamic ad placement engine that increased ad click-through rates by 15%. Implemented type safety to reduce bugs and improve code maintainability. Trained 20+ juniors and received 3 spot [Awards](#).

Software Development Engineer Intern | Efftronics Systems Pvt Ltd

May 2019 – Jun 2019

- Implemented a traffic monitoring dashboard with TypeScript, ReactJS (Hooks, Redux), and optimized with Webpack.
- Analyzed image data from CCTV to train YOLO-based model using NVIDIA GPU for extracting vehicle count by converting to PCUs. Performed Linear, Exponential, and Random Forest models to predict green time with a min 0.06 RMSE value.

Projects

Mask Detection: Engineered a full-stack web application to monitor mask compliance in public spaces; integrated AWS SNS and Lambda for instant alerts and global optimization using CloudFront. ([Publication](#))

Immigpt: Developed a web portal with React, Node.js, DynamoDB, Python, AWS, GCP, ML, and LLM to simplify immigration workflows, reducing response times by 50% and boosting user satisfaction by 60%. ([Website](#))

Personal Projects: Student Ambassador - (Adobe) | [SoCalledHappenings \(Website\)](#) - [Instagram](#) | [ISO-SJSU \(Website\)](#)

Achievements

Research Publications: [Smart Guidance System for Blind](#) | [Program Slicing Techniques](#)

Hackathons: Stanford TreeHacks (GenAI) | Won Headout-AI Hackathon (LLM Chatbot) | RunnerUp Jivox Byte Riot Hackathon

Certifications: AWS Certified Solutions Architect Associate, Azure-900, Certified Kubernetes Administrator (CKA)