

Komal Venugopal Vattumilli

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Education

Master of Science in Computer Software Engineering

San Jose State University, United States of America

Aug 2023 – May 2025

GPA: 4.00/4.00

Activities: Teaching Associate (Python), Peer Academic Success Coach, Adobe Student Ambassador

Coursework: Distributed Systems, Parallel Distributed Computing, Database Systems, Computer Networks

Bachelor of Technology in Computer Science Engineering

Vellore Institute of Technology, India

Jun 2017 – May 2021

GPA: 4.00/4.00

Experience

Software Engineer Intern | Salesforce

May 2024 – Present

- Developed **Java gRPC** APIs to monitor 100K gates using Elastic Search, Splunk and implemented Mockito test cases.
- Implemented **Kubernetes** service for cloning metadata across MySQL, S3, Alicloud & used **Terraform**, **Ansible** for IaC.
- Built slack bot to automate remediation actions on servers using **Python3**, **Shell** scripting and integrated ML models to predict failures, boosting uptime by 65%.

Software Development Engineer | Headout

Mar 2023 – Jul 2023

- Developed an asynchronous scalable report generation microservice using **Spring Boot**, GraphQL and integrated with secure OAuth 2.0 authentication via API Gateway, Cognito, Lambda authorizer.
- Built a middle layer API service for secure storage of service credentials achieving 30% improvement in **data security**.
- Implemented serverless caching using CloudFront, Memcached, and AWS Global Accelerator reducing latency by 65%.
- Adopted DevOps principles by implementing **Jenkins CI/CD**, and maintained monitoring using **Grafana**, ELK stack.

Software Development Engineer | Jivox Corporation

Jan 2021 – Mar 2023

- Built Apache Airflow pipelines for report generation using EMR, **Spark** to push data from **Kafka** to AWS S3 & Snowflake.
- Created 30+ reusable **React** components and used Tailwind CSS, Redux, and Axios to reduce development time by 70%.
- Optimized database queries and implemented **PostgreSQL** views, reducing REST API response times by 80%.
- Optimized **Golang** service & employed planned autoscaling strategies with EC2, EFS, and Nginx to maintain 98% uptime.
- Employed **Terraform** and Ansible for IaC and used ArgoCD for **Kubernetes** deployments. Trained 20+ juniors and received 3 spot **Awards**.

Software Development Engineer Intern | Efftronics Systems Pvt Ltd

May 2019 – Jun 2019

- Created a **MERN Stack** application using websockets to monitor traffic at different junctions integrating GMaps.
- 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.

Graduate Research Assistant | San Jose State University

Nov 2023 – Present

- Developed storybook automation system using PyTorch and GANs for illustrations and integrated **LLM**, **RAG**, **OCR** and **Text-to-Speech (TTS)** technologies to dynamically generate storybooks and narrative videos for children.
- Created RAG using AWS Bedrock, S3, Elasticsearch, and SageMaker to generate context-driven responses via Streamlit.

Technical Skills

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

Web Technologies: Node.js, Spring Boot, Flask, React, Redux, Tailwind CSS, Angular, GraphQL, REST API, 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

Projects & Achievements

- Face Mask Detection (Publication):** Engineered a MERN stack web application to monitor mask compliance using ML models and integrated AWS SNS, Lambda for instant alerts and Cloudfront for global access.
 - Immigpt:** Webscraped multiple sites with Selenium and developed a web portal using React and SpringBoot to address immigration-related questions through an LLM chatbot and implemented collaborative filtering for personalized recommendations.
- Research Publications:** [Smart Guidance System for Blind](#) | [Program Slicing Techniques](#)
 - Hackathons:** Stanford TreeHacks ([Mental Health - ML, GenAI](#)) | Won Headout-AI, Jivox Hackathons (BERT Chatbot)
 - Certifications:** AWS Certified Solutions Architect Associate, Azure-900, Certified Kubernetes Administrator (CKA)
 - Works:** JPMC Virtual Internship (Django, Python) | Adobe Student Ambassador | Research fellowship by Govt of India