

Komal Venugopal Vattumilli

San Jose, CA 95112 | (314) 201-5405 | komalvenugopal@gmail.com | [Linkedin Profile](#) | [GitHub](#) | komalvenugopal.tech

Education

Master of Science in Software Engineering

San Jose State University, United States of America

Aug 2023 – May 2025

Bachelor of Technology, Computer Science

Vellore Institute of Technology, India

Jul 2017 – Aug 2021

GPA: 3.68/4.00

Experience

Software Engineer | Headout | India

Mar 2023 – Jul 2023

- Owned Backend codebase in Python to assist long-running assets downloading tasks by task scheduling as pods in Kubernetes cluster for improving customer interaction.
- Maintained Helm charts for customizing charts to suit specific application requirements and versioning in the EKS cluster.
- Implemented ArgoCD rolling updates and rollbacks for seamless application deployments and reliability.
- Developed an Apache Airflow job to process and aggregate gigabytes of logs sourced from Content Delivery Networks (CDN). Employed batch processing techniques to extract valuable insights and pushed the processed data to Snowflake for analytics.
- Spearheaded efforts to enhance software reliability by introducing end-to-end automation tests. Leveraged TestNG, Selenium, and Cucumber to establish a robust testing framework for ensuring the product's stability and integrity.

Software Engineer | Jivox Corporation | India

Jan 2021 – Mar 2023

- Designed and managed public and private cloud infrastructures using AWS services - (EC2, S3, EBS, ELB, Cloud Watch, Elastic IP, RDS, SNS, SQS, Glacier, IAM, VPC, CloudFormation, Route53).
- Led transition from manual configuration and resource management to the adoption of IAC using Terraform and Ansible.
- Initiated the establishment of a Jenkins server on Amazon Elastic Kubernetes Service (EKS), streamlining the deployment process and enhancing Quality Assurance (QA) efficiency. Embraced DevOps principles, including Continuous Integration/Continuous Deployment (CI/CD), with the integration of Ansible and Chef, fostering runtime automation.
- Leveraged Kubernetes to orchestrate the deployment, scaling, and load balancing of Docker containers across namespaces.
- Pioneered the implementation of a robust application monitoring ecosystem, seamlessly integrating tools such as Datadog, Prometheus, and Grafana, in conjunction with the ELK (Elasticsearch, Logstash, Kibana) stack.
- Setup a cloud platform based on the Lambda architecture including Kafka, Spark, EMR, and S3.
- Created Bash, Python scripts to automate AWS services including web servers, ELB, CloudFront distributions, databases, EC2s and database security groups, and S3 bucket and application configuration.
- Awarded Above & Beyond Individual, Above & Beyond Team, Mountain Mover, Spot Awards for the automation activities.

Web Development Intern | Efftronics Systems Pvt Ltd | India

May 2019 – Jun 2019

- Created a MERN Stack application to monitor traffic at different junctions of the city utilizing Microsoft Vision API.
- Analyzed image data from CCTV to train YOLO-based model 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. Hosted the Random Forest model in Microsoft Azure for real-time predictions.

Projects

Mask Violation Detection System | Python, Flask, React, OpenCV, Machine Learning, MYSQL | [Publication](#)

- Developed a full-stack web application employing OpenCV and CNN to identify individuals not wearing face masks. Integrated google maps interface to visualize violation counts and used AWS SNS and Lambda modules for real-time alerts to nearby authorities. Achieved recognition by publishing the project's architecture model in a Scopus-indexed journal.

"The Blink," Technical article website | HTML, CSS, JavaScript, Python, NodeJS, MySQL | [Git](#)

- Designed a web application to efficiently categorize articles for simplified navigation, including Entertainment, Medical, Sports, and more. Pioneered a novel method leveraging Machine Learning and Natural Language Processing algorithms to classify articles and generate concise summaries.

Technical Skills

Languages: Python, Java, Bash, SQL, MYSQL, JavaScript, HTML/CSS, PHP, R-programming

DevOps: Git, Docker, Kubernetes, Linux, Jenkins, ArgoCD, CI/CD, Amazon Web Services, Microsoft Azure, Terraform, Ansible, Redis, Prometheus, Grafana, PagerDuty, Datadog, Kafka, Microservices, Distributed Systems, Nginx, Artifactory, Computer Networking, Reliability Engineering

Frameworks: Flask, Django, JUnit, RestAPI, Airflow, React, Node.js, Express.js

Achievements

Hackathons: RunnerUp Jivox Byte Riot Hackathon, Secured first place in the Headout-AI Hackathon

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

Certifications: [Certified Kubernetes Administrator \(The Linux Foundation\)](#), [Azure Fundamentals \(Microsoft\)](#), [AWS Essentials \(AWS\)](#), [Python Data Structures \(Coursera\)](#), [The Complete Kubernetes Course \(Udemy\)](#), [CI/CD with Jenkins pipelines \(Udemy\)](#), [Object Oriented Programming in Java \(Coursera\)](#), [Java for Android - Vanderbilt University \(Coursera\)](#), [Building Web Applications in PHP \(Coursera\)](#)