Komal Venugopal Vattumilli

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Education

Master of Science in Software Engineering — **Aug 2023 − Aug 2025**
San Jose State University, United States of America

Bachelor of Technology, Computer Science — **Jul 2017 − Aug 2021**
Vellore Institute of Technology, India — 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 in Kubernetes clusters for improving customer interaction.
- Built an Apache Airflow job to process and aggregate gigabytes of logs sourced from Content Delivery Networks (CDN). Utilized batch processing techniques to extract valuable insights and subsequently pushed the processed data to Snowflake for advanced 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, ensuring the stability and integrity of our software products.

Software Engineer | Jivox Corporation | India — **Jan 2021 − Mar 2023**
- Created a React and Spring Boot web app that decreased loading time by 67%.
- Integrated Razorpay payment gateway within a microservices-based web architecture using Node.js and Express.js, ensuring secure and seamless transaction processing for over 10,000 users.
- Implemented an elastic search server that handles both full and delta indexing jobs, as well as retrieval queries, resulting in a significant decrease in retrieval time from 11 seconds to just 1 second.
- Developed a Scala-based Kafka application that retrieves data from AWS S3 and streams it to various channels in near real-time, providing users with revenue dashboards.
- Took initiative to set up Jenkins server on EKS and steamlined deployment process that improved QA efficiency. Fixed SonarQube code smell issues for reliable, maintainable software.
- Awarded Above & Beyond Individual, Above & Beyond Team, Mountain Mover, and Spot Awards.

Web Development Intern | Efftronics Systems Pvt Ltd | India — **May 2019 − Jun 2019**
- Created a PHP 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.

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 a map 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 international journal.

"The Blink," Technical article website | HTML, CSS, JavaScript, Python, NodeJS, MySQL | Git
- Designed a web application that efficiently categorizes articles, including Entertainment, Medical, Sports, and more, for simplified navigation. Pioneered a novel method leveraging Machine Learning and Natural Language Processing algorithms to classify articles and generate concise summaries.

Technical Skills

Languages: Python, Java, C/C++, SQL, MYSQL, JavaScript, HTML/CSS, PHP, R-programming
Frameworks: React, Node.js, Express.js, Flask, Django, JUnit, WordPress, Material-UI, RestAPI, DevOps
Developer Tools: Git, Docker, Kubernetes, CI/CD, Amazon Web Services, Google Cloud Platform, Airflow, Terraform, Ansible, Kubernetes, Redis, Prometheus, Datadog, Kafka, Microservices, Distributed Systems, Computer Networking

Achievements

Publications: Guidance System for Blind | Program Slicing Techniques
Certifications: Azure Fundamentals (Microsoft), AWS Essentials (AWS), Python Data Structures (Coursera), Object Oriented Programming in Java (Coursera), Java for Android - Vanderbilt University (Coursera), Building Web Applications in PHP (Coursera), The Complete Kubernetes Course (Udemy), CI/CD with Jenkins pipelines (Udemy)
Hackathons: RunnerUp Jivox Byte Riot Hackathon for implementing IaC using Terraform for enabling version control on our AWS infrastructure, subsequently led the team migrating the company's infrastructure to Terraform, further elevating operational efficiency and reducing deployment risks. Secured first place in the Headout-AI Hackathon by developing an AI chatbot powered by the OpenAI GPT-3.5-Turbo model and large language models.