SASHANK AGARWAL

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EDUCATION

UNIVERSITY OF SOUTHERN CALIFORNIA | Master of Science in Computer Science (MSCS) **|** GPA: 3.75/4.0   May 2025
Relevant Courses: Analysis of Algorithms, Database Systems, Web Technologies, Advanced Operating Systems, Distributed Systems

RAMAIAH INSTITUTE OF TECHNOLOGY | Bachelor of Engineering in Computer Science and Engineering **|** GPA: 3.96/4.0   August 2020
Relevant Courses: Algorithms, Data Structures, Operating Systems, Distributed Systems, Web Technologies, Cloud Computing

SKILLS

Languages: Go/GoLang, Java, Python, NodeJS, Scripting (Shell, Bash), SQL, PostgreSQL, MongoDB, Firebase
Cloud Technologies: Docker, Kubernetes, AWS, Azure, OpenShift, Prometheus, Grafana, Terraform
Miscellaneous: Git, Kafka, Redis, gRPC, Jenkins, GitHub Actions, ArgoCD, Open Policy Agent (OPA)
Core competence: Agile/Scrum, Problem-Solving, Detail-Oriented, Strong Teamwork, Communication

WORK EXPERIENCE

NVIDIA | Cloud Software Infrastructure Intern, AIOPS | California, United States   May 2024 – August 2024
- Created a **Go** application integrates GPU data from 4 different data sources and normalizes it for compatibility with Prometheus metrics, increasing data comprehensiveness and accessibility
- Devised a comprehensive **Grafana** dashboard to visualize **Prometheus** metrics and **PostgreSQL** data, providing increased decision-making capabilities based on real-time insights and enabling leaders to make informed decisions **80%** faster
- Implemented role based access to dashboard data to boost security. Performed a POC on integrating application with LLM
- Performed BMC log cleanup by updating **Fluent Bit** configuration files, prevented **millions** of unnecessary logs from being stored in **S3**, significantly reducing storage costs

INTUIT | Software Engineer 2 | Bangalore, India   June 2022 – July 2023
- Collaborated to the Intuit Kubernetes Service team, taking charge of efficient management of cloud infrastructure in **AWS** and platform utilizing **Docker**, **Kubernetes** and **Go**, leading to a 15% reduction in infrastructure costs
- Improved availability and scalability of applications on Intuit's clusters by contributing to open source project keikoproj', focused on alert-manager and active-monitor, resulting in a 20% decrease in system downtime
- Automated functional testing procedures, resulting in a 40% reduction in manual testing effort and ensuring more reliable software releases leveraging **Jenkins**

RED HAT | Associate Software Engineer | Bangalore, India   November 2020 - May 2022
- Oversaw monitoring and alerting of large-scale logs in OpenShift, utilizing **Elasticsearch**, **Fluentd**, and **Kibana** for efficient log management, resulting in a 25% reduction in log processing time
- Developed and maintained the Loki Operator in collaboration with the Grafana team. Implemented key components such as auto-scaling, alerting, authentication, and authorization deploying **OIDC**, **Open Policy Agent (OPA)** for Loki
- Launched a storage calculator for Loki, predicting log volume in 24 hours and recommending resource requirements for the LokiStack, led to a 15% reduction in unnecessary resource allocation and cost savings

PROJECTS

Scalable Metrics Retrieval Solution |github.com/sasagarw/advancedos-project   April 2024
- Designed and implemented a scalable metrics retrieval solution operating **Thanos** and Prometheus resulting in 50% less cloud operation and storage cost
- Addressed challenges of expanding metrics data volume by leveraging Thanos for horizontal scaling of metrics querying
- Conducted comparative analysis with traditional methods across performance, cost, network bandwidth utilization, and storage efficiency. Evaluated additional metrics including time to scale and latency to assess feasibility and effectiveness of solution

Learning Python for DevOps | github.com/sasagarw/python-devops-learning   December 2023
- Implemented a Lambda function using **Boto3** library to identify and remove stale EBS snapshots, optimizing storage costs on AWS.
- Automated Jira ticket creation from GitHub comments using Python. Deployed a Flask-based Python application on AWS EC2, configured with a webhook for GitHub triggers, enhancing automation and streamlining ticketing process
- Configured AWS using **IAC** (Infrastructure as Code) tool **Terraform**, managing cloud resources with customized attributes
- Implemented S3 backend for remote state storage. Created reusable infrastructure using Terraform modules and managed environments with Terraform workspaces. Integrated Terraform with HashiCorp Vault for secure secret management

ACHIEVEMENTS

- Elected as **Director of Technology** at USC AIS - leading a team of 4; overseeing configuration of technical elements for events, resolving technical challenges, executing mass email communications, and maintaining AIS website   August 2023 - Present