Aman Bhala

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Experienced Software Engineer with a solid foundation in cloud computing, microservices, and automation. Strong problem-solving skills, hands-on experience in programming languages like **C++/JAVA/Golang/Python/C#** , tools like **Kafka, Postgres, Prometheus**, **Grafana** and technologies like **Kubernetes**, **Docker**, **AWS**. Proven success in delivering scalable solutions and enhancing performance in production at Snowflake, GE, Intel, and NVIDIA. Adept at cross-functional collaboration, working with cross-geographical teams, troubleshooting, mentoring, and presenting work to stakeholders.

EDUCATION

Arizona State University, Tempe, Arizona — August 2023 - May 2025
Masters in Computer Science (GPA: 4.0/4.0) — Tempe, AZ

Birla Institute of Technology and Science, Pilani — August 2016 – May 2020
Bachelors in Electronics and Instrumentation Engineering (CGPA: 8.5/10) — Goa, IN

PROFESSIONAL EXPERIENCE

Snowflake, Bellevue, USA : Software Engineer Intern — September 2024 - April 2025
(Golang, Bazel, Kubernetes, Docker, Jenkins, Envoy, WAF, DDoS)

- Designed and built the flow for integrating **Fastly** and **Coraza** Firewalls into deployments, configured **Envoy filters**, **automated firewall rule deployments**, and conducted **load testing** to ensure **30%** enhanced security and performance.
- Migrated envoy configuration generation process from **Virtual Machines** to **Kubernetes**. This will enable **25%** faster rollouts/rollbacks, reduce errors in production, and ensure a more efficient and reliable envoy configuration release process.
- Contributed to design and build of a centralized Envoy stack for traffic management, including TLS termination, WAF, DDoS protection, and DNS management. Built the logic for generating **Envoy configuration** from **tenant-provided service manifests** and a comprehensive **Integration test framework**. Built robust infrastructure with **pre-commit hooks** and **Jenkins pipelines** facilitating **20%** faster deployment cycles, configured **NLBs** and **health probes** for various **CSPs** and **Kubernetes** resources to ensure high availability, reducing downtime by **10%** and enhancing service reliability.

General Electric (GE Digital) , Hyderabad, IN : Software Engineer — August 2020 - August 2023
(JAVA, Spring Boot, Python, Kubernetes, Docker, Jenkins, Ansible)

- Contributed to the development of microservices and integration of open-source tools on K8s cluster to provide features such as **login**, **monitoring**, **logging**, **encryption**, and **Postgres,** facilitating a seamless **cloud migration**.
- Developed **Python scripts**, **Docker Images**, **Ansible tasks**, **Jenkins Pipelines & K8s deployment pipeline** to automate release activities which resulted in increasing efficiency by **85%,** fostering productivity and efficiency organization-wide.
- Enhanced **JAVA** & **Go K8s Operators** & **microservices,** driving feature enhancements & reducing **AWS** costs by **10%.**
- Developed comprehensive **test cases** in **JAVA** highlighting product features. Engineered the **Product Deployment Image(PDI)** for effortless deployment of these test cases on any K8s cluster.
- Implemented **cluster hardening** techniques, enabled cluster-wide **traffic encryption** using **mTLS**, **logging usernames** in pod logs & proactively addressed **Critical Vulnerabilities and Exposures(CVE's)** in docker images.
- Created **queries, alerts & dashboards** in Grafana and Prometheus**,** significantly improving observability & real-time insights into system performance.
- Provided **support** to customer teams, including on-call assistance, efficiently resolved **production issues**, and enhanced **documentation** for seamless product utilization.

NVIDIA, Bengaluru, IN: Software Engineer Intern — January 2020 - June 2020

- Contributed to the **Golden Register** team, enhanced testing capabilities for next-generation chips by incorporating **support** for advanced/newer fields in **Python tools**.
- Updated **Python** test cases for both existing tools and newly introduced features, ensuring **robustness and functionality**.

● Migrated codebase from legacy **Python(2to3)** and used **Pylint** package to enhance code quality & follow best practices.

TECHNICAL SKILLS

Languages: C++, Java, Golang, Python, HTML/CSS, Shell, SQL, Javascript, Linux/Unix, Bash Scripting

Technologies: Kubernetes(K8s), Docker, Helm, Distributed Systems, MicroServices, Object-Oriented Programming(OOPS), CI/CD practices, Agile, JSON, AWS, Envoy, Cloud, Terraform, Github Actions

Tools: Jenkins, PostgreSQL, PgPool, PgBouncer, Infinispan, AWS, Git, JIRA, Azure DevOps, GitOps, Istio, Kafka, Artemis, ElasticSearch, Prometheus, Grafana, Splunk, ArgoCD, Bazel, Data Structures

Frameworks: SpringBoot, Maven, Ansible, .NET framework, Heroku, NodeJs

PERSONAL PROJECTS

E-commerce Application - SpringBoot, JAVA, Docker, K8s , AWS, Git

● Developed a **microservices** based E-commerce **web application** with user login and intuitive web pages.

● Used **Model-View-Controller(MVC) architecture**, created **REST API's** for interaction between model and view layers, spring security to secure webpages and In-memory H2 database to store credentials and buyer and seller data.

Optimal Living Location Finder - C#, ASP.Net, XML, AWS, Git

● Developed **"Optimal Living Location Finder"** dynamic web application encompassing a user-friendly GUI with ASPX pages and controls, integrating Forms Security. Users can input and evaluate multiple locations based on criteria such as weather, crime rates, clean energy potential, and news analysis.

● Implemented public Default page outlining application features and sign-up process, Member page for user registrations with an image verifier, and a Staff page controlled by administrator access via XML file management.