SHANTANU LALITKUMAR JAIN

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EDUCATION

Columbia University, New York, NY May 2022
M.S. in Computer Science | GPA: 4.15
Coursework: Distributed Systems, Advanced Databases, Data Analytics, Cloud Computing, Machine Learning, Deep Learning

Savitribai Phule Pune University, Pune, India Jul 2019
B.E. in Computer Engineering | GPA: 3.82
Coursework: Data Structures, Discrete Mathematics, Object Oriented Programming, Machine Learning, Database Systems

TECHNICAL SKILLS

Programming Languages: Java, C++, Python, SQL
Web Technologies: Amazon Web Services, Google Cloud Platform, JavaScript, NodeJS
Software Tools/Frameworks: Docker, Kubernetes, Kafka, Spark, MongoDB, MySQL, CI/CD

PROFESSIONAL EXPERIENCE

VMWare by Broadcom Inc., *Member of Technical Staff 3 - Palo Alto, CA* Aug 2023 - Present

- Contributed to the development and enhancement of core cloud orchestration services for lifecycle management and automation of virtualized network functions (VNFs) within telecommunications (Telco) cloud environments.
- Led the initiative on a fault-tolerant certificate observability and API handshake monitoring service in Java Spring Framework for the Telco Cloud Platform (TCP), monitoring over 20000+ regionally distributed endpoints, delivering unified health status visibility.
- Designed and implemented distributed, multi-threaded remediation workflows for expired/untrusted CA certificates, invalid credentials, and automated renewals, enabling one-click user actions.
- Built an end-to-end distributed observability framework for MELT (metrics, events, logs, traces) using fluent-bit and otel-collector, enabling custom metrics for scalability testing and enhanced audit logging for security.

Cohesity Inc., *Software Engineer 2* - San Jose, CA Jul 2022 – Jul 2023

- Collaborated on data archival team, overseeing secure and efficient data migration to and from the cold tier.
- Developed a feature to validate API permissions for external archival targets registered on the Cohesity platform, such as AWS, GCP, Azure, NAS, and QStar targets.
- Built a transactional C++ system that leveraged Paxos and 2-Phase commit protocols for robust agreement and consistency between distributed nodes.
- Enhanced SaaS platform (Helios) to support dynamic expansion and contraction of Cohesity Clusters across AWS, GCP, and Azure for improved scalability and operational agility.
- Ensured multi-tenancy and scalability by implementing Kafka queues and service worker threads.

Siemens PLM Software, *Software Engineer Associate* - Pune, India Jul 2019 - Dec 2020

- Deployed and maintained the backend infrastructure on AWS as part of DevOps in the product research team.
- Designed a serverless architecture to automate maintenance of the MongoDB infrastructure.
- Migrated the infrastructure to various AWS regions using Terraform with Terragrunt.
- Built a GitLab CI/CD deployment pipeline for automatic security vulnerability detection in the codebase.

ACADEMIC PROJECTS

CodeNote: Convenient snippet storage for developers Sep 2021 – Dec 2021

- Developed a python-flask webapp for easy storage, access, search, share and linting of code snippets.
- Employed GitHub actions for CI and CD, with unit testing, API testing, linting and deployment to AWS EC2.
- Utilized S3, Dynamo DB and Elasticsearch for storage along with Cognito for 2FA.

Flagged Post Analysis: Stackoverflow Sep 2021 – Dec 2021

- Analyzed 18 textual, code-based and user-based features for automatic identification of low-quality posts.
- Deployed the entire dataset of 96GB on BigQuery with data processing, feature extraction and ML pipeline on Spark.
- Used LSTM Encoder-Decoder model for labelling, and logistic regression for classification with an accuracy of 73%.

E-Voting using Blockchain Feb 2021 - Mar 2021

- Designed a scalable and secure online voting system based on blockchain and smart contracts in Python.
- Synchronized blockchain across states with a combination of Merkle trees and proof-of-work consensus algorithm.
- Presented blockchain voting system as part of a peer-to-peer network of miners and users.