NIKESH SINGH

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EXPERIENCE

Google IT Services India Private Limited November 2023 - Present
Software Development Engineer III *Bangalore, Karnataka*

- Co-led the orchestration, rapid provisioning, and infrastructure-readiness of **˜1M TPU devices** dedicated to high-performance frontier ML workloads.
- Engineered and optimized automated Zero Touch Provisioning (ZTP) systems for massive data-center network routing devices operating as centralized Open vSwitch environments.
- Implemented and extended low-level control-plane features for the open-source **SONiC NOS** (Software for Open Networking in the Cloud) to enhance topology-aware traffic routing and fleet resilience.
- Debugged complex distributed system bottlenecks across software and hardware layers, improving fleet-wide mean time between failures (MTBF).

Tower Research Capital January 2023 - November 2023
Software Development Engineer II *Gurugram, Haryana*

- Architected a centralized, highly available **Elasticsearch** data store to handle low-latency storage, indexing, and querying for global high-frequency trading data.
- Designed and built scalable, fault-tolerant REST APIs to handle real-time request routing and massive data ingestion pipelines for post-trade incentive systems.

J.P. Morgan Chase and Co. August 2020 - December 2022
Software Development Engineer *Bangalore, Karnataka*

- Developed and managed core distributed portfolio analytics (PMA) applications for the Asset and Wealth Management division.
- Containerized microservices using **Docker** and designed highly scalable **Jenkins** CI/CD deployment pipelines targeting multi-tenant **Kubernetes** clusters using Skaffold.
- Built high-throughput backend services using **SpringBoot**, GraphQL, and Apache Ignite cache, implementing distributed security and LDAP authentication.
- Integrated comprehensive cluster observability, logging, and performance tuning infrastructure using the **Splunk** / ELK stack.
- Engineered interactive data-manipulation UIs with React/Redux and implemented end-to-end reliability verification via Cypress, Jest, and Enzyme.

Opex Analytics May 2019 - July 2019
Python Development Intern *Pune, Maharashtra*

- Developed a spatial utility tool for large-scale geospatial datasets featuring address geocoding, reverse geocoding, and distributed distance-matrix computations.
- Trained and deployed predictive time-series machine learning models (ARIMA, LSTM) to optimize supply-chain asset management.

EDUCATION

Indian Institute Of Technology Roorkee, Haridwar, UK *2016 - 2020*
Bachelor of Technology

PROJECTS

Traffic Sign Detection and Recognition March 2019 - April 2019
Computer Vision (link) *IIT Roorkee*

- Developed computer vision pipelines utilizing traditional image processing (color segmentation, convex hull properties, SVM, PCA) and deep learning models (SSD-Mobilenet-V1 via TensorFlow).

TECHNICAL STRENGTHS

Systems & Languages	C++, Java, JavaScript, Python, Go
Orchestration & DevOps	Kubernetes, Docker, Skaffold, Helm, Jenkins CI/CD, Cloud Foundry
Infrastructure Networking	SONiC NOS, Open vSwitch, Zero Touch Provisioning (ZTP), Load Balancing
Distributed Datastores	Elasticsearch, Apache Ignite, Oracle DB, Sybase, Liquibase
Frameworks & Tooling	SpringBoot, React, Redux, Splunk, ELK Stack, TensorFlow, Cypress