

# Shubham Singh

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## Senior Site Reliability & Platform Engineer

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Site Reliability & Platform Staff with **6+ years** of experience designing, operating, and hardening large-scale distributed systems in regulated, Highly Available (HA) environments with having an extensive understanding of the Kubernetes platform, infrastructure automation, incident response, and production observability. And well equipped when it comes to reducing the ops risk and improving SLO compliance on both cloud & hybrid platforms that caters to mission-critical workloads.

### WORK EXPERIENCE

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**Salesforce** – Hyderabad, India.

Oct 2024 – Present

#### Member of Technical Staff (Senior / Acting Staff Platform Reliability) – (Hybrid)

- **Fleet & Availability:** Ensure the **99.99%** availability of mission-critical tenant workloads by owning the reliability of **1,000+** production Kubernetes clusters across **AWS, GCP, Alibaba Cloud, and on-prem**.
- **Agentic AI:** Achieved a **30% reduction in MTTR** by implementing automation using Warden AI-Ops (**K8sGPT**) & deployed agents like K8s cluster issue detection, Pager duty bot, Reports automation, and provisioning nodepools.
- **Resilience Automation:** Created custom Kubernetes Operators for self-healing stateful set recovery, thereby **reducing manual intervention by 40%**.
- **CI/CD:** Re-developed deployment pipelines using Terraform, Spinnaker, and ArgoCD, **cutting cycle times by 30%**.
- **On-Call Load Reduction (OLR):** Implemented a Customer Engagement Framework (CEF) for tenant-facing alert routing, resulting in a **30% decrease** in false positives.
- **Security & Compliance:** Built and rolled out the custom IPVS kernel modules, 3PP images, and OS patches (RHEL 9.6, 9.7) across multiple repositories in the compliance-driven environments.

**Airtel International** – Gurgaon, India; Dubai, UAE.

May 2022 – Sep 2024

#### Site Reliability Engineer II – (Hybrid/Remote)

- **Recognition:** Received Einstein Award (**Top 1% Engineering**) for building and rolling the **e-SIM & KYC 2.0** platforms
- **Leadership:** Managed & mentored a team of **3 SREs** who consistently exceeded all the KPIs in **14 country** telco ops.
- **Platform Ownership:** Served as **the de facto reliability owner** for telecom-grade distributed platforms, ensuring that reliability, release risk, and operational constraints were balanced across regional teams with strict latency and availability requirements.
- **Affair System Platform:** Developed and implemented a centralised reconciliation and provisioning system to automate workflows and health checks, thereby **reducing functional dependencies across core services by 70%**.
- **Scale & Release Engineering:** Led the reliability, release stability, and orchestration of **more than 200** production micro-services using Kubernetes, Rancher, and Flux GitOps, thereby enabling large-scale telecommunications provisioning in Africa, South Asia, and the Middle East.
- **Anomaly Detection:** Developed and implemented internal anomaly detection software that integrates with Kibana and Loki to proactively identify failures, resulting **in a 50% reduction** in incident triage times across production systems
- **Database Performance:** Developed custom exporters for Grafana/Prometheus and optimised high-impact runtime SQL/NoSQL queries, thereby resolving long-standing latency issues in critical data paths.

Amway India – Gurgaon, India.

Jun 2020 – Apr 2022

### DevSecOps Engineer – (Remote)

- **Progression:** Within the first year, *promoted from DevOps to DevSecOps Engineer* for significant contributions to operational stability and production reliability.
- **Incident Mitigation:** Built ACUTE - a centralised automation platform for recon catering to both sales and tax teams for their business metrics that slashed both monthly and annual production *incidents by ~100 and 400* respectively.
- **Docker Image Optimisation:** By refactoring pipelines, layer caching, and fixing AWS bottlenecks, Docker build times were *reduced by 40%*, thereby reducing release friction and operational delays.
- **Performance Engineering:** Tested *10+ e2e journeys* - by using automation with Headless Chrome, Node.js, and Influx-DB to ensure system stability during high-traffic scenarios and replicate events like a Black Friday.

Octonius Inc. – Palo Alto, CA, USA; Barcelona, Spain.

Jun 2018 – May 2020

### Founding Engineer – (Hybrid)

- **End-to-End Ownership:** Became the *first engineer to join and own* infrastructure, CI/CD, database, and service architecture, enabling the development of an end-to-end product from design to deployment.
- **Infrastructure Modernisation:** Spearheaded the transition to a containerised architecture using Docker Swarm, resulting in an *80% reduction* in deployment complexity and infrastructure dependencies.
- **Technical Leadership:** Recruited and managed a distributed team of *over 10 contributors, including designers and developers*. Developed comprehensive documentation for over *150 REST APIs across 15 micro-services*.
- **Collaboration Systems:** Developed “Folio”, a real-time collaborative document system (google doc) that *guaranteed a sub-100ms* latency for concurrent users by utilising ShareDB (Operational Transformation) and WebSockets.

## PROFESSIONAL SKILLS

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- **Orchestration & Compute:** Kubernetes(EKS, GKE, On-Prem); Docker; Helm; Rancher; K8s Custom Operators; K8s Custom Resources; Statefulset; Nodepools; Operator SDK
- **Infrastructure as Code:** Terraform; Ansible; Cloudformation; Drift Detection
- **CI/CD & Platform Delivery:** ArgoCD; Flux; Spinnaker; Github Actions; Jenkins; Release Orchestration
- **Reliability & Observability:** Prometheus; Grafana; Loki; Kibana; PagerDuty; Datadog; SLO/SLI Design; Error Budgets; Incident Command; Postmortem Culture; Runbook Automation; Toil Reduction
- **Cloud & Networking:** AWS (EC2, EKS, S3, IAM, VPC); GCP (GKE, Cloud Run); Alibaba Cloud; Linux Internals; iptables; IPVS; DNS; TCP/IP; Load Balancing
- **Security & Compliance:** OS hardening (RHEL 9.x); Patching; 3PP Image Scanning; IPVS Kernel Module Management
- **Data & Messaging:** Kafka; RabbitMQ; Redis; PostgreSQL; MongoDB; DynamoDB; ElastiCache
- **Programming Languages:** Go; Python; Java; Bash; Node.js; Typescript
- **Capacity & Performance Engineering:** Load testing; Capacity modelling; Headroom planning; Peak Traffic analysis; Resource right-sizing

## EDUCATION

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Netaji Subhas Institute of Technology (NSIT), The University of Delhi – New Delhi, India

Bachelor of Engineering (B.E.), Computer Engineering (COE)

Aug 2016 – Jun 2020