

Advait Kesar

Senior SRE

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EDUCATION

IIT Patna — M.Tech, Cloud Computing (Pursuing)
Bachelor of Engineering — Computer Engineering

August 2026 – Present
Pune, India

SKILLS SUMMARY

Languages: Golang, TypeScript, Python, Bash, .NET (C#), SQL **Data:** PostgreSQL, MySQL, Redis

Cloud & Infrastructure: Azure, AWS, Docker, Kubernetes, Helm, Terraform, Ansible

CI/CD & Platforms: GitHub Actions, Jenkins, Linux, Windows Server

Observability: Prometheus, Grafana, Loki, Promtail, OpenTelemetry, Jaeger, SigNoz, Thanos, Alertmanager, Node Exporter, cAdvisor

Networking & Security: Nginx, TLS/MITM, ICAP, HTTP/3/QUIC, TPROXY, nftables, ONNX, LDAP/Kerberos, RBAC

WORK EXPERIENCE

Defenxee Private Limited
Senior SRE

May 2026 – Present

- **Engineering Ownership:** Manage a **7-person engineering team** and own architecture, delivery, and reliability of a **19-service** enterprise AI-security appliance, coordinating traffic interception, inspection, policy enforcement, and operational controls.
- **Measured Inspection Improvement:** Reduced redaction **p95 from 705 to 129ms (82%)** and **p50 from 264 to 62ms (77%)** by adding per-detector and gateway metrics, validating INT8 quantization, and correcting ONNX thread oversubscription. Compared before/after end-to-end request timings on the same mixed workload to quantify inspection overhead.
- **Model Correctness & Capacity:** Caught moderation-model collapse missed by end-to-end checks; introduced build gates rejecting collapsed outputs or label flips to prevent silent loss of findings. Validated per-channel MatMul quantization with **zero label flips** on the evaluated corpus; tuned sessions/threads to reduce an **80-request batch from 21s to 7s** at concurrency eight, with **12/12 verdict cases** matching in each run.
- **Management-Plane Responsiveness:** Measured **p50 1.74ms / p95 5.64ms across 3,000+ live API calls** using request durations recorded in service journals; provided responsive management APIs for configuring and operating the appliance.
- **Detection & Policy Decisions:** Unified **10 detection engines** with OCR, Exact Data Match, and **104 custom PII recognizers** to protect text, images, and sensitive records; enabled **70+ recognizers** after false-positive studies. Used score-separability analysis to correct enforcement gates instead of ineffective threshold changes.
- **Enterprise Traffic Integration:** Built forward, transparent, and reverse proxies, chaining, and egress modes using TPROXY/nftables routing, ICAP, HTTP/3/QUIC, MITM TLS, and certificate issuance to support varied customer network topologies without separate inspection implementations.
- **Reliability & Verification:** Maintain **1,307 Go tests** covering detector behavior, policy enforcement, and end-to-end inspection to catch security and functional regressions. Enforced a **50ms regex budget** to prevent detector stalls; delivered fail-closed verdicts, identity integration, offline licensing, audit forwarding, clustering, and diagnostics to support enterprise deployment and troubleshooting.

WORK EXPERIENCE – CONTINUED

AssetCues Solutions Private Limited

May 2023 – May 2026

DevOps Engineer

- **Leadership & Enterprise Operations:** Managed **6 DevOps engineers** and worked alongside **20 developers** on database operations; owned production availability, deployment, and recovery for infrastructure supporting approximately **140 enterprise customers**.
- **Infrastructure Automation:** Reduced manual effort by **60%** by automating provisioning, environment setup, and recurring operations with Terraform and Bash, making environments repeatable and reducing operational dependencies.
- **PostgreSQL Reliability:** Reduced database incidents by **40%** through PITR, WAL archiving, logical replication, automated backups, and performance tuning to protect data and improve recovery readiness.
- **Incident Response:** Diagnosed crashes, connection exhaustion, long-running queries, and scheduler failures; used root-cause analysis to restore service and prevent recurrence, reducing MTTR by **50%**.
- **Observability & Service Health:** Improved detection time by **70%** through OpenTelemetry, Prometheus, postgres-exporter, Loki, Grafana, and SigNoz; defined API/job/database SLIs and alerts to make failures actionable.
- **Capacity & Cost:** Lowered infrastructure costs by **20%** through compute sizing, storage IOPS optimization, and connection pooling to align capacity with workload demand.
- **Release Safety & Governance:** Reduced deployment failures by **65%** and configuration drift by **75%** through CI/CD rollback strategies, environment isolation, automated validation, and peer-reviewed Terraform changes.
- **Recovery & Security:** Improved RTO by **60%** through restoration drills and documented recovery procedures; restricted Azure/AWS networking, hardened Kubernetes namespaces/service accounts, and secured PostgreSQL with TLS, RBAC, audit logs, and encrypted backups to limit exposure and protect continuity.

Justlog Solutions

January 2022 – May 2023

Backend Engineer – Go / PostgreSQL / AWS

- **Backend Ownership & Migration:** Owned **250+ REST APIs across 19 logistics domains** for a platform serving **100+ customers**; migrated .NET to Go/PostgreSQL/AWS with API parity so existing clients required no changes.
- **Tenant Security & Data Performance:** Isolated customer records through PostgreSQL RLS migrations and tenant-scoped policies; closed authentication bypass and role/JWT vulnerabilities. Optimized **400+ SQL queries** through pgxpool, keyset pagination, batched writes, and composite indexes to reduce database work.
- **Runtime & Delivery Reliability:** Built Redis caching and tuned container memory to eliminate recurring OOM kills; added OpenTelemetry/SigNoz, ARM64 CI, race-detector checks, and tests against real PostgreSQL/Redis to diagnose failures and validate releases. Integrated courier APIs, PDF/Excel generation, and Textract validation for shipment and proof-of-delivery workflows.

PROJECTS

Ed-Tech Backend & Content Delivery: Built scalable APIs and AWS CloudFront/S3 content delivery for 1K+ users, reducing video buffering by **60%** and improving load times by **40%**.

ACHIEVEMENTS

National Defence Academy: Recommended for NDA Course 144 (Air Force – Flying); All India Rank **411**.