

Tran Manh Toan

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Education

Hanoi University of Science and Technology (HUST)

Sep 2021 – 2025

Bachelor of Information Technology – HEDSPI

Skills

Cloud & Infrastructure: AWS (VPC, EC2, S3, RDS, IAM, WAF), Linux, Terraform (IaC)

Containers & Orchestration: Docker (Multi-stage builds), Docker Compose, Kubernetes, Helm

CI/CD & GitOps: GitHub Actions, GitLab CI, Git, ArgoCD

Monitoring & Logging: Prometheus, Grafana, Loki / Fluent Bit

Languages & Scripting: Bash/Shell, Python, Go, NodeJs/TypeScript

Databases & Middleware: PostgreSQL, Redis, Nginx (Reverse Proxy, SSL/TLS)

Experience

SETA International Viet Nam – *Software Engineer (Backend & Cloud-Native Focus)* Mar. 2025 – Present

- Engineered scalable backend microservices and RESTful APIs aligned with **12-Factor App principles**, ensuring stateless application design for container autoscaling.
- Containerized multi-tier web applications using **Docker multi-stage builds**, reducing runtime image footprint and enforcing non-root security standards.
- Maintained automated **CI/CD pipelines via GitHub Actions**, incorporating automated unit tests, linting, and container registry publishing.
- Profiled runtime performance and tuned **PostgreSQL connection pooling and query execution**, mitigating latency spikes during peak traffic.
- Authored environment configuration standards, infrastructure runbooks, and deployment guidelines to bridge development and operations workflows.

PIPPIP - Soict Innovation Center – *Intern*

Sep. 2024 – Feb. 2025

- Applied Clean Architecture principles to decouple core domain logic from framework dependencies and external database tiers.
- Standardized local development environments and configuration management across team setups, minimizing configuration drift between machines.
- Participated in architectural reviews to analyze system boundary isolation, structured logging, and automated dependency pipelines.

Projects

Kaneko Platform – *Cloud & DevOps Engineer*

Apr. 2026 – Sep. 2026

- Provisioned AWS infrastructure for a multi-service data ingestion pipeline (EKS, RDS PostgreSQL, S3, SQS, ECR, VPC) through 11 reusable **Terraform** modules, isolating dev and prod into separate state/environments and replacing a manually configured EC2 docker-compose stack.

- Migrated deployment from CI-driven `kubectl set image` to full **GitOps with ArgoCD**, restructuring 7 back-end microservices into an app-of-apps hierarchy (12 Applications with selfHeal/auto-sync) so cluster state is always derived from Git and rollback is a `git revert`.
- Redesigned the **GitHub Actions** pipeline around keyless **IAM OIDC** authentication and commit-SHA-tagged, immutable **ECR** images, adding a cross-repository `update-manifest` job that closes the loop from code push to running pod with zero manual `kubectl` access for CI.
- Stood up an internal observability stack — **Loki/Fluent Bit** for centralized logging and **kube-prometheus-stack** (Prometheus, node-exporter, kube-state-metrics) for infra/app metrics — on a Grafana instance isolated from client-facing dashboards and gated by **AWS WAFv2** IP-allowlist rules on the ALB.
- Traced a Go microservice pipeline (SQS producer/consumer, S3 PUT/GET calls) end-to-end from source to diagnose a hidden duplicated S3 write per uploaded file, redesigning the flow to cut per-file storage operations by 50%.

VEngy – *Nx Monorepo, NestJS, Docker, Nginx, Actions*

Dec. 2025 – Mar. 2026

- Architected an **Nx Monorepo CI/CD pipeline** utilizing dependency graph caching (`nx affected`) to isolate builds, reducing pipeline execution time by over 50%.
- Containerized services with production-ready Dockerfiles, setting up **Nginx as a reverse proxy** for SSL termination, routing, and gzip compression.
- Designed an enterprise **Role-Based Access Control (RBAC)** system supporting dual-level authorization (system-wide and project-scoped), adaptable to API Gateway and Kubernetes RBAC.
- Automated PostgreSQL database schema migration workflows within deployment stages to guarantee consistency and eliminate regression risks.

Code Quality Scanner – *FastAPI, Python, Docker, Loki, Grafana*

Jul. 2025 – Nov. 2025

- Engineered an automated repository analytics platform integrating GitHub and Jira APIs to audit commit hygiene, PR workflows, and code traceability.
- Built resilient asynchronous data ingestion pipelines equipped with rate-limiting handlers, exponential backoff retries, and decoupled exception handling.
- Implemented centralized logging utilizing **Loki and Fluent Bit**, building Grafana dashboards to monitor scan throughput, task latencies, and worker error rates.
- Packaged FastAPI worker services into lightweight container images with configured liveness/readiness probes and graceful shutdown signals.

Cloud-Native Deployment & Observability Lab – *AWS, Terraform, Kubernetes, Helm, ArgoCD* Personal Project

- Provisioned reproducible cloud infrastructure on AWS (VPC, subnets, Security Groups, IAM) using modular **Terraform** configurations.
- Deployed containerized services onto a **Kubernetes** cluster via custom **Helm** charts, defining resource limits, Secrets, and Horizontal Pod Autoscalers (HPA).
- Configured a declarative **GitOps pipeline with ArgoCD**, syncing cluster state against Git repositories to enable zero-downtime rolling updates.
- Established end-to-end monitoring using **Prometheus and Grafana**, setting up proactive alerts for Pod CrashLoopBackOff states and elevated HTTP 5xx rates.