

TRI NGUYEN

Senior Backend Engineer | Java & Spring Boot | Python & FastAPI | SaaS APIs | Enterprise Integrations | AI Systems

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SUMMARY

Senior Backend Engineer with 10+ years of software engineering experience building, maintaining, and modernizing production systems across the United States, Japan, Singapore, Malaysia, and Australia.

Strong backend focus across Java and Spring Boot, Java Spring MVC, Python and FastAPI, with experience designing REST APIs, microservices, transactional workflows, enterprise integrations, authentication and authorization, subscription billing, asynchronous processing, database-backed systems, and cloud deployments.

Experienced across SaaS, telecom, eCommerce, healthcare, logistics, payment systems, customer subscriptions, ERP integrations, reporting platforms, AI workflows, and internal enterprise applications.

Backend-first engineer capable of owning features end to end, from requirement analysis and architecture design through implementation, testing, deployment, production debugging, and long-term maintenance. Node.js and TypeScript are used primarily for backend-for-frontend routing, API proxying, and integration boundaries rather than as the primary application backend.

CORE SKILLS

Java Backend

Java, Spring Boot, Spring MVC, Spring Data JPA, Spring Security, Hibernate, JDBC, REST APIs, Dependency Injection, Transaction Management, Bean Validation, Maven, Gradle

Backend Architecture

Microservices, Modular Monoliths, Layered Architecture, Controller-Service-Repository Pattern, Domain Services, Service-to-Service Communication, API Gateway, Event-Driven Workflows, Scheduled Jobs

SaaS, Billing, and Security

Stripe Checkout, Stripe Subscriptions, Customer Portal, Webhook Synchronization, Billing State Machines, Firebase Authentication, JWT, OAuth 2.0, Role-Based Access Control, Tenant Isolation, Backend-Enforced Authorization

Messaging and Background Processing

Kafka, Message Queues, Event Processing, Background Workers, Scheduled Jobs, Cron Workflows, State Reconciliation, Idempotent Consumers, Failure Recovery

BFF and Frontend Exposure

Node.js, TypeScript, Next.js BFF, API Proxying, Authentication Propagation, Request Forwarding, React, Next.js, Backend API Integration

Python Backend and AI Services

Python, FastAPI, Django, SQLAlchemy, Pydantic, REST APIs, AI Microservices, ETL, Data Processing, Background Jobs, Pytest, OpenAI API, Google Gemini

API Integration and Automation

Third-Party APIs, Payment APIs, CRM and ERP Integrations, Logistics APIs, Telecom Platforms, Data Synchronization, Webhooks, Idempotency, Retry-Safe Workflows, Validation, Structured Error Handling

Data and Persistence

PostgreSQL, Oracle, MySQL, MongoDB, HIRDB, SQLite, JPA, Hibernate ORM, SQLAlchemy, Schema Design, Indexing, Query Optimization, Database Transactions, Migrations, Caching

Cloud, DevOps, and Testing

Docker, Kubernetes, Google Cloud Run, Cloud SQL, AWS, GitHub Actions, CI/CD, Nginx, Structured Logging, Monitoring, Rollback Procedures, JUnit 5, Mockito, Spring Boot Test, Pytest, Integration Testing

SELECTED BACKEND PRODUCT DEMO

ProdReadyAI / Jobs Work — Live SaaS Backend Demo

<https://app.jobs-work.com/en> | [About / Architecture](#)

Built a live SaaS product demonstrating production-style backend engineering across authentication, subscription billing, AI workflows, protected APIs, cloud deployment, and operational architecture.

Designed backend service boundaries for authenticated user actions, billing-aware workflows, AI processing, third-party API integration, and environment-based configuration.

Built Python and FastAPI AI services integrating OpenAI and Google Gemini with prompt workflows, deterministic validation, guardrails, sanitized error handling, and reliable failure boundaries.

Implemented secure same-origin BFF routes using Node.js and Next.js for request forwarding, authentication propagation, protected endpoint classification, and private backend access.

Integrated Firebase Authentication, Stripe Checkout, subscription lifecycle handling, customer portal flows, webhook-backed billing synchronization, and backend-enforced entitlement checks.

Structured the product as a reusable reference for production-oriented SaaS backend systems, including service layers, protected API boundaries, billing state management, asynchronous workflows, and cloud-ready deployment patterns.

PROFESSIONAL EXPERIENCE

Confidential U.S.-Based AI SaaS Startup

Remote — United States

Senior Backend Engineer — Java, Python and AI Systems

Feb 2026 – Present

- Design and build production backend services using Java, Spring Boot, Spring Data JPA, Hibernate, PostgreSQL, and REST APIs.
- Develop backend workflows for subscription billing, authentication, user entitlement, external integrations, asynchronous processing, and operational automation.
- Build layered service architecture using controllers, domain services, repositories, validation components, and integration clients.
- Implement transaction-safe workflows to ensure related billing, subscription, campaign, and scheduled-operation changes are committed or rolled back consistently.
- Build Spring Security authentication and authorization flows with token validation, tenant-scoped access, protected API boundaries, and fail-closed behavior.
- Implement Stripe Checkout, subscription lifecycle management, customer portal flows, webhook synchronization, cancellation, resume, and billing-state reconciliation.

- Develop scheduled jobs and background services for delayed operations, state reconciliation, retry-safe processing, and external platform synchronization.
- Build separate Python and FastAPI AI services for OpenAI and Google Gemini integration, prompt processing, deterministic validation, and AI workflow execution.
- Integrate Java Spring Boot services with Python AI microservices through secure internal REST APIs.
- Maintain Node.js and TypeScript BFF routes for request forwarding, authentication propagation, protected endpoint classification, and integration testing.
- Add JUnit, Mockito, Pytest, integration, and regression tests around billing, authentication, authorization, webhooks, transactional behavior, and failure scenarios.
- Deploy containerized services using Docker, Google Cloud Run, Cloud SQL, and GitHub Actions.
- Contribute to limited React and Next.js work only where required to connect backend APIs, billing flows, and authenticated user actions.

Stack: Java, Spring Boot, Spring Data JPA, Spring Security, Hibernate, Python, FastAPI, PostgreSQL, Cloud SQL, Stripe, Firebase Authentication, OpenAI API, Google Gemini, Node.js/TypeScript BFF, Docker, Google Cloud Run, GitHub Actions

Hotlink / Maxis

Remote — Malaysia

Technical Leader — Java Backend and eCommerce Integration

Apr 2023 – Dec 2025

- Led backend development for telecom eCommerce systems covering mobile devices, subscription plans, product catalogs, payments, customer accounts, reporting, and internal operations.
- Designed and developed Java Spring Boot services for product, payment, order, customer, shipping, CRM, and reporting workflows.
- Built REST APIs and service-to-service integrations connecting internal platforms with payment providers, catalog systems, logistics services, CRM platforms, and customer-support tools.
- Designed Spring Data JPA and Hibernate persistence layers for transactional and reporting workloads.
- Implemented transaction boundaries, validation rules, exception handling, retries, idempotency, and operational reconciliation.
- Built scheduled Spring Boot jobs for catalog synchronization, transaction processing, reporting updates, and recurring backend workflows.
- Designed Kafka and asynchronous processing workflows for distributed business events and system synchronization.
- Developed Python ETL and automation services for catalog, transaction, reporting, AI-assisted content, chatbot workflows, and internal productivity use cases.
- Improved PostgreSQL and MongoDB performance through query optimization, indexing, caching, and data-access improvements.
- Built secure service endpoints using Spring Security, JWT authentication, role-based access, and backend validation.
- Containerized Java and Python services using Docker and Kubernetes and maintained CI/CD pipelines with rollback procedures.
- Used Node.js and TypeScript only for BFF, API proxying, and integration-facing service boundaries.
- Contributed to limited React and Next.js dashboards for backend integration and operational workflows.

Stack: Java, Spring Boot, Spring Data JPA, Spring Security, Hibernate, Python, PostgreSQL, MongoDB, Kafka, REST APIs, Node.js/TypeScript BFF, Docker, Kubernetes, Nginx, OpenAI API, CI/CD

Zuellig Pharma

Remote — Singapore

Technical Leader — Golang Microservices and Healthcare Commerce

Jul 2021 – Mar 2023

- Led development and integration for a B2B healthcare commerce platform used by hospitals, clinics, distributors, vendors, warehouse teams, and operational users across Asia.
- Built Golang microservices for product, order, inventory, warehouse, logistics, vendor, and ERP integration workflows.
- Designed REST and GraphQL APIs that unified product, order, inventory, warehouse, logistics, and operational data from more than 30 vendors.
- Developed transactional persistence and data-access layers for order, inventory, warehouse, and fulfillment workflows.
- Implemented schema validation, data transformation, retry handling, idempotency, error recovery, and asynchronous synchronization.
- Built Kafka-based workflows for inventory updates, order-state changes, logistics events, and vendor-data synchronization.
- Designed scheduled jobs for vendor imports, reconciliation, logistics updates, and operational reporting.
- Standardized API contracts and domain models, reducing integration ambiguity and recurring cross-team defects.
- Built React interfaces with SCSS for order management, inventory visibility, warehouse operations, and backend API integration.
- Improved release reliability through unit testing, integration testing, CI/CD automation, and production-oriented failure handling.
- Containerized Golang microservices and React applications using Docker and Kubernetes.

Stack: Golang, React, SCSS, PostgreSQL, MongoDB, Kafka, REST APIs, GraphQL, ERP Integrations, Docker, Kubernetes, GitHub Actions

Aurecon Group

Remote — Australia

Backend Engineer — Java and Python Business Systems

Oct 2020 – Jun 2021

- Built Java Spring Boot backend services for project management, collaboration, document workflows, reporting, and internal business operations.
- Developed REST APIs, service layers, repositories, data models, and integration components for enterprise workflow systems.
- Built Spring Data JPA and Hibernate persistence layers backed by PostgreSQL.
- Created scheduled jobs and automated reporting workflows that saved more than 15 hours of manual work per week.
- Built Python automation and data-processing services for reporting, workflow aggregation, and internal operational tasks.
- Translated complex business requirements into maintainable domain services, API contracts, validation rules, and transactional workflows.
- Added JUnit, Mockito, Pytest, and integration tests to improve release confidence and reduce production regressions.
- Deployed services through Docker and Kubernetes with consistent staging and production environments.
- Used Node.js and TypeScript only for lightweight BFF and internal API integration modules.
- Contributed to limited React and Next.js work for internal API-driven interfaces.

Stack: Java, Spring Boot, Spring Data JPA, Hibernate, Python, PostgreSQL, REST APIs, Node.js/TypeScript BFF, Docker, Kubernetes, CI/CD

NTT Communications

Onsite — Japan

Java Backend Engineer — Spring MVC and Data Processing Systems

Jan 2018 – Aug 2020

- Developed and maintained Java Spring MVC backend systems for telecom eCommerce, enterprise services, monitoring platforms, data-processing systems, and internal operational tools.

- Built REST APIs and middleware components for service integration, data ingestion, transformation, log processing, and operational workflows.
- Developed controller, service, repository, persistence, and integration layers using Java, Spring MVC, Hibernate, and SQL.
- Implemented transactional backend workflows with attention to consistency, reliability, performance, and production maintainability.
- Built integrations between telecom systems, monitoring platforms, databases, and operational services.
- Improved database queries, service performance, structured logging, observability, and production diagnostics.
- Built Python automation and data-processing utilities for monitoring, log analysis, diagnostics, and internal operational workflows.
- Developed a Python and TensorFlow facial-recognition service integrated with internal authentication systems for a production pilot.
- Used Node.js only for lightweight internal integration and operational utilities.
- Contributed to limited JavaScript and React interfaces for consuming backend APIs and displaying monitoring data.

Stack: Java, Spring MVC, Hibernate, Python, TensorFlow, REST APIs, SQL, Oracle, Node.js BFF/Utilities, Enterprise Integrations, Telecom Systems

KDDI Corporation

Onsite — Japan

Java Backend Engineer — Enterprise Systems

Mar 2015 – Dec 2017

- Developed and maintained Java enterprise backend systems for telecom eCommerce, customer subscriptions, internal service management, and nationwide operational platforms.
- Built backend applications using Java, Spring MVC, Struts, Hibernate, Ehcache, Oracle, HiRDB, and REST APIs.
- Developed controller, service, persistence, caching, and integration layers for high-traffic enterprise systems.
- Implemented transactional workflows for customer subscriptions, eCommerce operations, service management, and internal business processes.
- Built Hibernate persistence layers, optimized SQL queries, and maintained database mappings for large enterprise databases.
- Implemented Ehcache caching strategies to reduce database load and improve application stability and response time.
- Managed Oracle and HiRDB databases, including query tuning, backup, migration, recovery, and disaster-recovery support.
- Supported multi-terabyte production databases and business-critical applications under strict SLA requirements.
- Built scheduled Java jobs and Python automation scripts for recurring maintenance, monitoring, migration, backup, and operational workflows.
- Investigated and resolved production defects across Java services, database transactions, integrations, and infrastructure.
- Documented APIs, database flows, deployment procedures, troubleshooting guides, and operational runbooks.
- Contributed to limited JavaScript frontend work for internal enterprise applications.

Stack: Java, Spring MVC, Struts, Hibernate, Ehcache, Python Automation, Oracle, HiRDB, SQL, REST APIs, Enterprise Integration

EDUCATION AND CERTIFICATION

Da Nang University of Science and Technology

Bachelor of Science in Information Technology

2009 – 2014

Relevant coursework: Object-Oriented Programming in Java, Algorithms and Data Structures, Database Systems, Operating Systems, Compiler Design, Software Engineering

Deep Learning Specialization

Andrew Ng / Stanford University / Coursera

[Certificate](#)