

# TRI NGUYEN

Backend Engineer | Python | Node.js | TypeScript | Go | SaaS APIs | Integrations | Billing | Production Systems

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## SUMMARY

Backend Engineer with 10+ years of software engineering experience building production business systems across the U.S., Japan, Singapore, Malaysia, and Australia. Strong backend focus across **Python**, **Node.js** / **TypeScript**, and **Go**, with deep experience in SaaS backend architecture, API design, third-party integrations, authentication, billing workflows, data pipelines, async processing, production debugging, and cloud deployment.

I am strongest in backend-heavy product work: turning unclear business requirements into reliable APIs, service layers, data models, integration flows, background jobs, and operational tooling. I prefer roles where I can own backend implementation, maintain production systems, debug real incidents, and improve reliability without being positioned as a frontend/Figma specialist.

## CORE SKILLS

### Python Backend

Python, FastAPI, Django, SQLAlchemy, Pydantic, REST APIs, Webhooks, Background Jobs, Service Layers, ETL / Data Sync, Production Debugging, Pytest

### Go Backend

Go, REST service development, existing Go service maintenance, typed service boundaries, context-aware request handling, API clients, background workers, operational tooling, backend performance work

### API Integration / Automation

Third-Party APIs, Payment APIs, CRM / ERP Integrations, Marketing / Platform APIs, Data Synchronization, Retry-Safe Workflows, Validation Guards, Idempotency, Error Handling, Structured Logging

### Cloud / DevOps / Testing

Google Cloud Run, Cloud SQL, Docker, Kubernetes, Vercel, Render, GitHub Actions, CI/CD, Environment Configuration, Unit Tests, Integration Tests, Failure-Path Testing

### Node.js / TypeScript Backend

Node.js, TypeScript, NestJS, Express, Fastify-style API patterns, API Gateway / BFF patterns, Webhooks, Auth Middleware, Server-Side Validation, Integration Services, Node Test Runner

### SaaS / Billing / Auth

Stripe Checkout, Stripe Subscriptions, Customer Portal, Webhook Sync, Billing State Machines, Firebase Auth, JWT, OAuth-style API Integrations, Tenant Scoping, Backend-Enforced Access Control

### Data / Storage

PostgreSQL, SQLite, MongoDB, MySQL, Oracle, HiRDB, SQLAlchemy, Schema Design, Indexing, Migrations, Query Tuning, Data Normalization

### AI / LLM Backend

OpenAI API, Google Gemini, LLM Workflow Integration, Prompt Pipelines, AI Automation, Deterministic Validation, Guardrails, AI Report Pipelines, Safe Error Boundaries

## SELECTED BACKEND PRODUCT DEMO

### ProdReadyAI / Jobs Work - Live SaaS Backend Demo

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

- Built a live SaaS demo to show production-style backend engineering ability across auth, billing, AI workflows, backend APIs, deployment, and operational architecture.
- Implemented a private FastAPI backend behind secure same-origin backend-for-frontend API routes, keeping internal backend APIs away from direct browser exposure.
- Integrated Firebase Auth, Stripe subscriptions, webhook-backed billing sync, OpenAI and Google Gemini workflows, AI report generation, and Google Cloud deployment patterns.
- Designed backend-authoritative checks for authenticated actions, subscription-gated flows, billing state, and protected API access instead of relying only on UI behavior.
- Structured the product as a reusable SaaS backend reference: service layers, protected routes, billing-aware workflows, AI pipeline boundaries, environment-based configuration, and deployment-ready services.

## PROFESSIONAL EXPERIENCE

### Confidential U.S.-Based AI SaaS Startup | Remote - United States

Feb 2026 - Present

#### Backend Engineer - Python / Node.js / Go / SaaS Systems

Building production backend systems for a confidential AI-powered SaaS product with subscription billing, authentication, AI workflow integration, third-party API connectivity, and backend automation.

- Designed and implemented Python/FastAPI backend services for user actions, AI-assisted workflows, billing-aware flows, and internal operational processes.
- Built service-layer architecture for external platform integrations, request validation, downstream API orchestration, failure-state handling, and structured backend logging.
- Integrated OpenAI and Google Gemini APIs into backend workflows with deterministic validation, guardrails, sanitized error handling, and predictable service boundaries.
- Implemented Stripe Checkout, subscription lifecycle handling, customer portal flows, webhook-backed billing synchronization, entitlement checks, and backend-enforced access control.
- Built Firebase Auth protected backend flows with token validation, secure API boundaries, tenant-scoped access, fail-closed behavior, and targeted auth tests.
- Maintained Node.js / TypeScript backend-facing code for API proxy/BFF routing, protected endpoint classification, request forwarding, auth propagation, and integration tests.
- Built scheduler and cron-driven backend infrastructure for delayed operations, state reconciliation, retry-safe processing, and external platform synchronization.
- Added unit and integration tests around auth, billing, webhook idempotency, API routing, failure cases, and production safety checks.

**Stack:** Python, FastAPI, Node.js, TypeScript, Go service patterns, PostgreSQL / Cloud SQL, SQLAlchemy, Firebase Auth, Stripe, OpenAI API, Google Gemini, external APIs, Google Cloud Run, Docker, GitHub Actions

### Hotlink / Maxis | Remote - Malaysia

Apr 2023 - Dec 2025

#### Technical Leader - Backend / eCommerce Integration

Worked on telecom eCommerce systems for mobile devices, subscription plans, product catalogs, payments, customer portals, analytics, reporting, and internal operations.

- Built backend integration and automation workflows connecting payment, product catalog, shipping, CRM, reporting, and customer-service systems.
- Designed Python ETL and synchronization jobs for catalog, transaction, and reporting data, reducing manual operations and improving daily data accuracy.
- Built schema-based validation and transformation workflows to keep distributed third-party integrations consistent and easier to maintain.

- Worked in Node.js / TypeScript service environments for backend APIs, integration endpoints, operational dashboards, and service-to-service communication.
- Maintained Go service environments and backend integration boundaries where performance, deployment simplicity, and typed contracts were important.
- Integrated OpenAI / ChatGPT API and automation workflows for marketing copy, chatbot responses, internal productivity, and data-processing use cases.
- Tuned PostgreSQL and MongoDB queries / indexes to improve reporting performance and reduce latency in key business workflows.
- Containerized services with Docker / Kubernetes, configured Nginx ingress behavior, and maintained CI/CD pipelines with rollback procedures.

**Environment included:** Python, Node.js, TypeScript, Go service environments, REST APIs, ETL / sync jobs, PostgreSQL, MongoDB, Docker, Kubernetes, OpenAI API, CI/CD, Nginx

### **Zuellig Pharma | Remote - Singapore**

Jul 2021 - Mar 2023

#### **Technical Leader - Backend / eCommerce Team**

Contributed to eZRx / Zuellig Pharma, a B2B healthcare commerce platform used by hospitals, clinics, distributors, vendors, and operations teams across Asia.

- Led backend integration across order, inventory, logistics, warehouse, vendor, and legacy ERP systems.
- Built API workflows that unified product, order, warehouse, logistics, and operational data into a more consistent backend data layer.
- Authored Python ETL and automation scripts to normalize transactions from 30+ vendors and support logistics update flows.
- Worked across Node.js service environments for backend APIs, GraphQL / REST integration points, and operational workflows.
- Supported Go service environments and backend migration work around high-volume order, inventory, and vendor integration flows.
- Standardized schema-first API contracts, reducing integration ambiguity and repeated cross-team defects.
- Added test coverage and CI/CD automation to improve release reliability across distributed engineering teams.

**Environment included:** Python, Node.js, Go service environments, GraphQL, REST APIs, backend integrations, PostgreSQL, MongoDB, Docker, Kubernetes, CI/CD, GitHub Actions

### **Aurecon Group | Remote - Australia**

Oct 2020 - Jun 2021

#### **Backend / Full Stack Developer - Development Team**

Built project-management, collaboration, workflow tracking, document, reporting, and internal business systems for architecture and engineering teams.

- Engineered backend services and integration jobs using Python, PostgreSQL, and internal APIs for project workflows and reporting.
- Created ETL-style automation jobs to aggregate and normalize operational data and generate daily KPI reports, saving more than 15 hours per week.
- Built and maintained Node.js / TypeScript API modules for workflow services, reporting endpoints, and internal business tools.
- Supported Go service environments and internal backend utilities where small services and clear API contracts improved maintainability.
- Translated complex business workflows into clean API modules, reusable service layers, and maintainable backend code.
- Deployed services through Docker / Kubernetes with staging / production parity and collaborated with distributed agile teams across countries.
- Added unit and integration tests to reduce post-deployment issues and improve release confidence.

**Environment included:** Python, Node.js, TypeScript, Go service environments, PostgreSQL, REST APIs, ETL-style automation, Docker, Kubernetes, CI/CD

### **NTT Communications | Onsite - Japan**

Jan 2018 - Aug 2020

#### **Backend / Full Stack Developer - Development Team**

Worked on telecom eCommerce, enterprise service systems, monitoring tools, data-processing platforms, and internal operational systems for Japanese users and support teams.

- Designed middleware components for data ingestion, transformation, log processing, and service integration systems.
- Developed backend APIs in Python and existing Java / Node.js service environments with attention to transactional integrity, performance, and operational reliability.
- Built Node.js backend utilities and JavaScript service integrations for internal tools, monitoring workflows, and operational dashboards.
- Built a Python + TensorFlow facial-recognition prototype integrated with internal authentication services for a production pilot.
- Created network diagnostics and log-processing dashboards that improved router issue investigation and support-team visibility.
- Improved backend observability, operational reporting, and internal support workflows for telecom service teams.

**Environment included:** Python, Node.js, REST APIs, TensorFlow, SQL, data-processing workflows, network / monitoring systems, Java services, internal backend tools

### **KDDI Corporation | Onsite - Japan**

Mar 2015 - Dec 2017

#### **Backend / Enterprise Systems Developer**

Developed telecom eCommerce, customer subscription, internal service-management, enterprise operations, and database-backed systems.

- Built and maintained backend APIs for nationwide eCommerce and internal service-management platforms.
- Implemented persistence and caching layers that reduced database load and improved stability in high-traffic systems.
- Authored Python scripts for migration, monitoring, recurring maintenance, backups, and operational automation.
- Managed Oracle and HiRDB databases, including backup, tuning, and disaster-recovery support for multi-terabyte systems.
- Resolved production defects under strict SLA expectations and documented APIs, data flows, and runbooks for cross-team support.
- Worked with Java enterprise services and backend integration patterns that later shaped my approach to Python, Node.js, and Go service design.

**Environment included:** Python operational automation, REST APIs, Oracle, HiRDB, SQL, Java Spring MVC / Struts systems, Hibernate, Ehcache, enterprise backend systems

## **EDUCATION & CERTIFICATIONS**

### **Da Nang University of Science and Technology**

Bachelor of Science in Information Technology, 2009 - 2014

Courses: OOP in Java, Compilers, Algorithms, Operating Systems, Data Structures

### **Deep Learning Specialization**

Andrew Ng / Stanford University / Coursera

[Certificate](#)