

# Jacob Nguyen

Senior Backend Engineer | Tokyo / Toronto

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## Professional Summary

Senior Backend Engineer with 6+ years of experience specializing in Distributed Systems, cloud-native architecture, and production-grade API design. Deep expertise in building high-scale .NET 8 and TypeScript platforms on Azure/Kubernetes with a focus on performance, security, and automated data pipelines. Currently relocating to Tokyo and seeking long-term opportunities.

## Professional Experience

### Open Source & Independent Projects

*November 2025 - Present*

#### Senior Software Engineer

Remote / Tokyo

- \* Architecting a geospatial search and recommendation engine for dietary-safe dining in Tokyo, utilizing PostGIS and custom ranking algorithms to provide real-time restaurant matches based on complex allergy constraints.
- \* Developing high-performance, open-source microservices in Go, focusing on event-driven patterns and low-latency API design for distributed systems.
- \* Researching advanced RAG integration within backend services, optimizing data flows between vector databases and application layers for generative AI features.

### Eitoss

*July 2023 - October 2025*

#### Senior Software Engineer

Remote

- \* Led the backend architecture for enterprise generative AI integrations using C# / .NET, designing advanced response streaming protocols that improved perceived latency by 40%.
- \* Engineered highly reliable data ingestion and vector indexing pipelines, supporting incremental synchronization and strict data validation for enterprise-scale workloads.
- \* Architected a zero-trust cloud security posture, implementing Cloud Identity and Secret Management to achieve a zero-secret configuration across all distributed microservices.
- \* Managed scalable Kubernetes infrastructure, implementing zero-downtime deployment strategies and custom autoscaling policies to maintain 99.9% availability during peak traffic.

### Foresight Insurance Analytics

*Nov 2022 - June 2023*

#### Software Engineer

Toronto, Ontario

- \* Engineered critical algorithmic modules using C# / .NET, cutting compute duration by 60% and enabling real-time risk assessment.
- \* Hardened full-stack application integration for distributed edge devices, establishing robust hardware validation protocols for field deployments.
- \* Managed highly-available containerized workloads, ensuring reliable performance across hybrid edge and multi-cloud environments.

### KetteQ

*Feb 2022 - Sept 2022*

#### Software Developer

Remote

- \* Optimized relational and columnar database schemas, reducing query execution time by 75% for high-velocity analytics dashboards.
- \* Architected event-driven microservices using Cloud Functions and Message Queues, implementing robust idempotency patterns for reliable data processing.

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## Uptake

July 2021 - Jan 2022

### Software Developer

Toronto, Ontario

- \* Refactored complex database procedures, cutting nightly ETL duration by 45% and improving data freshness for enterprise users.
- \* Engineered complex data visualization components within an Angular.js frontend, significantly enhancing reporting capabilities for enterprise users.

## HearMeCheer

Nov 2020 - June 2021

### Software Developer

Toronto, Ontario

- \* Scaled high-throughput media processing servers using Go to handle 500k concurrent streams for live engagement platforms.
- \* Standardized internal Developer Experience (DevEx) by architecting comprehensive API specifications, reducing engineering onboarding time by 30%.

## Yupp Technology

Sept 2019 - Aug 2020

### Software Developer

Toronto, Ontario

- \* Architected a resilient Node.js microservice architecture, utilizing message brokers for robust, webhook-driven data ingestion.
- \* Deployed and hardened production Kubernetes clusters, establishing end-to-end encryption and secure service-to-service communication.

## Technical Skills

**Cloud & Platform:** Azure AKS, AWS, GCP, Platform Engineering, Kubernetes, Terraform, Bicep

**Languages & Frameworks:** C#, .NET 8, TypeScript, Go, Python, NestJS, React, Spring Boot

**AI & Data:** Azure OpenAI, AI Search, AI Foundry, Vector Indexing, Prompt Engineering

**Databases:** PostgreSQL, ClickHouse, SQL Server, DynamoDB

**Security & Architecture:** Auth0, OAuth2, System Design, Microservices, RBAC, Managed Identity

**Infrastructure & CI/CD:** GitHub Actions, Data Pipelines, Helm, NGINX Ingress, GitOps

**Spoken Languages:** English (Native), Japanese (Basic - Self-studying for JLPT)

## Education

University of Toronto

Toronto, Ontario

Bachelor of Computer Science