

Tran Vinh Thuan

thuantran.io | thuan.tran1409@gmail.com | (+84) 976 760 691 | [Linkedin](#)

SUMMARY

Senior Backend Engineer with expertise in designing scalable distributed systems, event-driven architectures, and cloud-native backend platforms. Passionate about solving performance and reliability challenges through asynchronous processing, observability, and data-intensive system design using Python, Django, FastAPI, Kafka, and AWS. Delivered measurable improvements including 8× faster APIs and 96% reduction in pipeline execution time.

EXPERIENCE

Peg B Technology, Dubai | Software Engineer | October 2024 - Present

- Optimized data processing time by 96% (8 hours to 5 minutes) by architecting a fan-out/fan-in Kafka pipeline between Couchbase and MySQL.
- Reduced API latency by 8x (4s to 0.5s) through profiling and elimination of N+1 query patterns, improving user experience.
- Resolved critical production deadlocks by refactoring legacy transactional code and introducing exponential backoff retry logic to improve fault tolerance.
- Enhanced system observability by implementing an Elastic APM and OpenTelemetry stack, establishing a unified monitoring pattern adopted across all Python repositories.
- Standardized engineering practices and technical documentation, improving maintainability and developer experience.

PTN Global, Vietnam | Software Engineer | April 2023 - September 2024

- Collaborated with Australian healthcare partners to design technical solutions, translating complex clinical requirements into a production-ready medical QA system serving a corpus of 3,000+ documents.
- Led a 5-person backend team through sprint planning and code reviews, facilitating the delivery of proof-of-concept demos to external clients.
- Engineered a serverless ETL pipeline using AWS Step Functions and Lambda to automate data extraction from REDCap, improving data integrity and system maintainability.
- Improved search reliability for neurological researchers by migrating vector databases from ChromaDB to pgvector, eliminating intermittent query failures.
- Reduced operational costs for Machine Learning inference by implementing PostgreSQL-based caching for frequent queries and establishing warm-up strategies for SageMaker endpoints.

Appcore, Vietnam | Software Engineer | June 2021 - March 2023

- Developed and integrated Stripe payment processing with Django Rest Framework and PostgreSQL.
- Improved API responsiveness by offloading background workloads to Celery and Redis.
- Collaborated on the business design process by creating flow diagrams and preparing technical backlog items.

SKILLS

- **Programming Languages:** Python, Go, SQL, TypeScript.
- **Backend:** Django, Django REST framework, FastAPI.
- **Database & Messaging:** Postgresql, MySQL, Redis, Couchbase, pgvector, Kafka, ETL, Celery.
- **Cloud & DevOps:** AWS (Lambda, API Gateway, SageMaker, Step Functions, S3, RDS), Docker, CI/CD (GitHub Actions, Jenkins).

- **Observability:** Elastic APM, OpenTelemetry.
- **Architecture:** Distributed Systems, Async Processing, API Design.
- **Web & Client-Side:** REST/WebSocket APIs, Next.js, HTML5, CSS3, Apache ECharts.

EDUCATION

BSc in Computer Science, Graduation 2021

- Can Tho University, Vietnam
- GPA: 3.34 / 4.00
- Thesis: Vietnamese plagiarism detection system using PhoBERT