

# Linh Tran

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Software engineering, machine learning.  
I enjoy optimizing code performance to the degree possible.

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## About me

- Open-source contributor to popular Python's machine learning library **annoy**
- Web framework: Flask, FastAPI
- Python machine learning library: Annoy, Tensorflow

## Experience

**May 2024 - Present**      **Team lead** - Freelancer, Vietnam

Software development service to UJET - emerging contact center as a service

- Tech stack: Ruby on Rails, ReactJS.
- Lead a team of 5 engineers to bring new features to production.
- Participate in full UJET's software development life cycle, from product requirements to technical designs, documentations & demonstrations, implementation & verification.

**Jan - Dec 2023**      **Tech lead** - Sotatek, Vietnam

Out-sourced projects for clients including The Cardano Foundation (7th largest blockchain) and Devexperts

In most projects, I act as the person to understand clients' key pain points & challenges, and propose matching solutions. I supervise a team of 10 on technical nuances and collaborate with project managers to ensure project timeline.

### Ballistic project

- Tech stack: Java Spring Boot - gRPC inference engine, Python FastAPI - RESTful Web API, Three.js - client side 3D visualization.
- Large scale firearm identity matching - AI based, trained on open dataset on 3D microscopic scans of bullets' toolmarks **NBTRD dataset**.
- Transform search time from minutes to sub-seconds by replacing open-sourced R engine with Java implementation of **HNSW** for vector search.
- Derive from open-source algorithms (e.g **CMC**, **CMS**) a model that converts 3D scans into searchable vector embeddings.
- Lead development of Python web service to integrate our AI service to a demo product of the client.

## Devexa project

- Multi-channel AI chatbot for financial service providers to help with customer service and customer conversion.
- Tech stack - backend: Kotlin, Java Spring Boot.
- Lead a team of 3 to work with a Devexa lead to develop new features.

**Jan - Dec 2022**      **Senior software engineer** - Garena (Sea group)  
Largest mobile game company in Southeast Asia.

Build high-performance backend for event sites of leading games (i.e **League of Legends**, **Arena of Valor**), serving millions of gamers concurrently.

- Tech stack:
  - Infra: CentOS, Nginx, Iptables
  - Backend: Python Flask, GraphQL, PostgreSQL
  - Frontend: ReactJS

**Jan - Oct 2021**      **Self-employed** - XSeed cloud gaming

Cloud gaming service utilizing kernel-based virtual machines and NVIDIA vGPU as game server, customized open-source **Moonlight** as clients.

- Tech stack:
  - Infra: Kernelbase Virtual Machine, NVIDIA vGPU
  - Backend: NodeJS, C++ for Node Native Plugin, Java

**Jan 2018 - Dec 2020**      **Software engineer** - Pique AI (now part of **MoMo** - largest mobile wallet in Vietnam)

Start-up providing AI recommendation service for small-medium enterprises. The AI agent can read, see, hear and understand user behavior and recommend relevant product/services. It all started with a **paper**

- Tech stack: MongoDB/MySQL, Javascript/Node as API server, Python as inference engine.
- This is my first official work - started while studying, convinced by a promising start-up story.
- We worked in a small team, rotating responsibilities on software engineering as well as data science.
- Highlight projects:
  - Music recommendation (audio content based) for NCT - 2nd largest digital music provider in Vietnam.
  - Dating recommendation (visual content based) for a Japanese client
  - Luxurious jewelry recommendation (text-visual hybrid content) for **Glamira**.
  - **Pharmacy**'s product recommendation.
- My highlight contribution: Doubled the performance of our recommendation API, by optimizing k-nearest-neighbor classifier (**Spotify's open-source pr #387**).

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## Education

**2012-2019**      **Computer Science** - Hanoi University of Science and Technology, Vietnam

*Thesis: Learned video compression for game streaming application*

**2015-2016**

**Erasmus Scholarship Exchange** - Uppsala University, Sweden

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