

# 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 Python's machine learning library (**annoy**)
- Web framework: Flask, FastAPI
- Python machine learning library: Annoy, Tensorflow

## Experience

**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 small team on technical nuances and collaborate with project managers to ensure project timeline.

### Ballistic project

- Large scale firearm identity matching system through processing 3D scans of bullets' toolmarks, trained on open **NBTRD dataset**
- Tech stack: Java Spring Boot as inference API, Python FastAPI as web API, R, Three.js for 3D model visualization
- 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 team to build a Python web service as part of the proof-of-concept to demonstrate algorithm efficiency

### Devexa project

- AI solution for customer care and sales for financial service providers
- Tech stack - backend: Kotlin, Java Spring Boot
- Lead a team of 3 for the backend development

**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: Kernel-based 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**
- My highlight contribution: Doubled the performance of our Python inference engine, by optimizing k-nearest-neighbor classifier (**Spotify's open-source pr #387**)

## 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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