Linh Tran

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

About me

- Personal details:
    - Gender: male
    - DOB: 17/04/1995
    - Married, and with 1 kid
- Strong at technical communication, usually the person to help unify team towards a common technical decision.
- Ability to work with all layers from hardware (physical) to software (application)
- Can transform problems with high abstraction/ambiguity to clear, concise implementations
- My curious nature more than anything drives me towards improvements

Hobbies

- Updating on latest tech trends, like the recent rise of multi-modal AI like the newly introduced Google Gemini
- Playing DOTA 2 - old but delicate PC game
- Tinker with hardware/firmware. DIY home automation stuffs that is readily available on the market but still fun to make
- I used to do marathons (216km/week) but the time cost is indeed an obstacle
- Play with my kid

Programming language

Language	Years of experience
Javascript	6
C/C++	3
Python	3
Java	2
Kotlin	1

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**

- 3D visualization bullets' toolmarks in X3P surface profile format - with Three.JS . Involved features include:
  – Comparing 2 profiles side by side - highlighting surface difference, auto alignment based on maximum-correlated positioning.
  – Lighting control: positioning, pattern, color
  – Control of surface smoothness
  – Scaler for mapping on-screen distance, changed with zoom level, with absolute distance in micrometer/milimeter
- Build a Java, gRPC backend that enables real-time searching and indexing of visually similar 3D surface profiles.
- 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

Devexa project AI solution for customer care and sales for financial service providers

- Built a backend to integrates the client's user-intent recognition system and messaging system (Telegram, Messenger, Viber, etc.)
- Transformed legacy Java backend to newly built Kotlin one.

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
- Work closely with business development team to come up with engaging gaming event logic, consult the team on trading off between logic complexity and system performance, utimately reaching intricate logic that is both compute-feasible and efficient for revenue/marketing targets.
- Migrate old Python code base to NodeJS one, while solidifying core busines logic and incorporate them in the new codebase architecture.
- System level maintainance for running services and upcoming services, basically DevOps on bare-metal clusters without the ease of cloud or containerized applications
- Tech stack:
  – Infra: CentOS, Nginx, iptables
  – Backend: FastifyJS, GraphQL, PostgreSQL

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

- Create a virtualization architecture that is able to run gaming workloads with control input and media stream output.
- Infrastructure built on Linux KVM on bare metal, with NVIDIA vGPU as GPU hypervisor. OS for the VM is Windows.
- Each VM runs an agent software that is built with NodeJS with C++ native plugins for integrating with OS-level API. Features including:
  - Registering VM service to the master server, listening for commands from servers, e.g: user's entering, user's exiting, starting game/executables, etc.
  - Implementing open-source NVIDIA GameStream protocol for providing target game streaming service
  - Receiving executable binaries from the data center and providing virtual file system layer to the VM for executing the binaries seamlessly
- Build a mobile app as PoC client, extended from an Java/Android open-source code base **Moonlight**

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, Tensorflow, Docker.
- This is my first official work - started while studying, convinced by a promising start-up story.
- We work 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**
- Responsibilities include:
  - Migrating code base from legacy to modern architecture
  - Build our gRPC inference engine in Python
  - Build our REST API with NodeJS
  - Build evaluation pipeline for deep learning models
  - Build our own browser-based user behavior tracking SDK in Javascript, with detailed documentation for our partners' integration
  - Automate our process on data aquisition & cleaning for customers with diversed data policies
- My highlight contribution: Doubled the performance of our recommendation API, by optimizing k-nearest-neighbor classifier (**Spotify's open-source pr #387**)

Jan 2015 - Jun 2015 **Engineering Intern** - Nexus Frontier Tech

Technology consultant on digital transformation

- Significantly improve the accuracy of a service that bills vehicle side advertisement by moving distance, by introducing elevation data from Google API along with GPS data.
- Propose AR, VR solutions to customers on enhancing UX in their car showroom

Jan 2013 -
Jan 2015

Engineering Intern - OWS Vietnam

Technology consultant on streaming technology

- x2 performance of full-text search engine by porting from Java Lucence to CLucene (C based)
- Lead the intern team on development of internal e-learning platform built on LAMP stack
- Lead knowledge sharing seminars on various trending tech topics, e.g WebRTC, Uniting mobile + app development - Ionic, Angular, Meteor etc.

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

---

linhtran17495@gmail.com | Phone: +84 37 4099
103 | Github: linhtran174 | LinkedIn: linhtran174