Melbourne, Australia
ltkhoa2711@gmail.com
0410 262 017

Khoa Le

linkedin.com/in/letankhoa
github.com/tkhoa2711

I'm a lead software engineer with 10+ years of experience in all aspects of software development, from hands-on crafting code to leading teams to deliver value to users. I enjoy helping other engineers succeed and improving engineering culture.

Work Experience

Lead Software Engineer   **Homes.com.au**   **Nov 2022–Present**
Consumer domain team   Melbourne, Australia

- Homes.com.au is a new real-estate platform aimed to ease the property finding journey for consumers.
- Led a team of engineers focused on our core consumer-facing product. Spent most of my time working closely with engineers (pairing, code review, design discussion, coaching) following continuous delivery principles.
- Worked with the leadership team to redefine our ways of working. We saw improved delivery cadence, better team engagement from idea inception to delivery, and reduced waste in the process.
- Collaborated closely with product and design teams to help shape the product, not just delivering it.
- Planned and migrated our observability stack from Sumo Logic to Datadog with the whole team.
- Led engineering-wide non-functional initiatives such as improving end-user performance and improving test coverage across our codebase. Introduced RFCs to facilitate decision-making as a team.

Senior Software Engineer   **Homes.com.au**   **Nov 2021–Nov 2022**
Melbourne, Australia

- Led many initiatives to improve our engineering culture following our engineering manifesto.
- Drove the adoption of architectural decision records (ADR) to document the evolution of our codebase and microservices architecture over time.
- Joint forces with engineering leaders to use metrics such as DORA to drive broader organisational changes.
- Mentored other engineers and helped new joiners get up to speed.
- Became the subject matter expert for critical areas of our system: nginx, Terraform, AWS, API.
- Designed a system in conjunction with data scientists to extract property features from text and images of listings.
- Helped our data team to set up the AWS infra for our data pipelines on Airflow from scratch.
- Continuously optimise our CI/CD pipelines on Buildkite to keep our feedback loop as short as possible.

Skills: Go, gRPC, Remix, React, TypeScript, Sass, DynamoDB, Elasticsearch, IAM, VPC, S3, Auth0, Cloudflare

Software Engineer   **Homes.com.au**   **Jun 2021–Oct 2021**
Melbourne, Australia

- Started the engineering blog for the company.
- Established a guideline for code review and pull requests.
- Built the ability to search listings by school zone and proximity. Improved the query performance by at least 2x by standardising the map projection for our geospatial data in PostGIS.
- Implemented a real-time image-processing solution that saves cost by 85% and improved image load latency P95 by up to 50% compared to the previous solution. I wrote a public blog post about it here.
- Single-handedly implemented the core reverse proxy & load balancing service using nginx.
- Worked with the CTO to design and plan for the go-live of the public-facing website. This includes safely performing DNS switch-over and preparing for fallback scenarios.

Skills: Next.js, Node.js, GraphQL, Go, PostgreSQL, Terraform, AWS, Cloudfront, ECS, Docker, Sentry, LaunchDarkly, Buildkite

Software Engineer   **Plexus**   **Jan 2020–Jun 2021**
Core engineering team   Melbourne, Australia

- Worked in a cross-functional agile team for our core SaaS product for legal contract & workflow, Plexus Gateway.
- Contributed to various features across the stack from React frontend, legacy Django monolith, newer API services using event sourcing and CQRS, and lambdas using serverless architecture.

- Actively participated in technical design discussions, code reviews and pair programming.
- Advocated for adopting new technologies to solve complex problems faced by the team. For example, I did a POC to implement micro-frontends using Web Components. This eventually became the foundation allowing us to create a seamless in-app document signing experience using DocuSign behind the scenes.
- Started several initiatives to improve our DevOps and developer experience. Migrated some of our apps to Docker to standardise the development environments. Optimised build process to reduce deployment time by nearly 50%.

Skills: Python, Django, React, Redux, Webpack, PostgreSQL, Serverless framework, Terraform, AWS, Heroku, CircleCI

Software Engineer   **Plexus**   **Jan 2019–Dec 2019**
App development team   Melbourne, Australia

- Became the first software engineer of the App Dev team responsible for building new-generation bespoke web apps for our clients using Vue.js. Participated in the entire project lifecycle from cost estimation to on calls with clients.
- Constantly made suggestions to improve team operation, reducing friction between developers and stakeholders.
- Guided junior team members and helped manage our offshore team.
- Laid the foundation for an initiative where we semi-automated the building of new client apps, cutting average delivery time from a week to just over a day.

Skills: Vue, Vuetify, SCSS, Jest, Cypress

Summer Research Intern   **CSIRO-Data61**   **Nov 2016–Feb 2017**
                                               Melbourne, Australia

- Carried out a research project on mining students' work logs to perform formative assessments of the students' performance in a software engineering team project.
- Evaluated textual analysis and machine learning techniques to create a predictive model for grading students.
- Published a [conference paper](#) for the 2017 Asia-Pacific Software Engineering Conference Workshops.

Skills: Python, NLTK, Scikit-learn

Software Engineer   **Bank of America Merrill Lynch**   **Jul 2014–Jul 2016**
Management Information System project   Singapore

- Designed and developed the real-time data analytical system for the electronic FX trading team that enables our traders to monitor the current market and trading activities.
- Worked closely with stakeholders to understand the domain knowledge and their needs.
- Created various in-depth analytics reports from scratch using our proprietary Python framework. Developed models and complex queries for our time-series data stored in KDB.
- Optimised system performance and reliability: reduced report load time, optimised KDB queries to handle large datasets (10s of GB/day), prevented out-of-memory crashes, and improved fault tolerance of async job scheduling.

Skills: Python, KDB, C++

Software Engineer   **Bank of America Merrill Lynch**   **Jul 2013–Jul 2016**
FX Trading Platform team   Singapore

- Worked in an agile team for InstinctFX – a global e-FX algorithmic trading platform. It is a globally distributed system designed with high performance, scalability and low latency.
- Contributed to the development of multiple server-side services for pricing, trade booking and processing using C++11 with STL and Boost on RHEL Linux.
- Responsible for improving our CI/CD pipelines and test automation on Jenkins.
- Became one of the core maintainers for our in-house regression testing framework.

Skills: C++, Boost, Java, Linux, Bash, Jenkins

Summer Intern   **Bank of America Merrill Lynch**   **May 2012–Aug 2012**
                                               Singapore

- Created a CLI tool using C++ for on-demand database replication and backup.

- Built a simple web dashboard to allow the team to manage all the QA servers in one place easily.

Part-time Developer   **Earth Observatory of Singapore**   **Jul 2011–Dec 2011**

Singapore

- Developed UI for data querying and visualisation of volcanoes on a PHP web application with jQuery.

Education and Certifications

- **Master of IT,** Swinburne University of Technology, Australia.   **2016–2018**
- **B.Eng. Computer Engineering,** Nanyang Technological University, Singapore.   **2009–2013**

Technologies and Languages

- Languages: Go, Python, JavaScript/TypeScript, React
- Databases: PostgreSQL, DynamoDB
- Technologies: AWS, ECS, Fargate, Lambda, Serverless, Cloudflare, Auth0
- Tools: Terraform, Docker, GitHub
- Other: Continuous delivery, product development, DevOps

Projects

- **Hate speech detection on Twitter** - Applied research team project for my Master. The project aims to detect hate speech in Twitter in real-time with demographic information. Single-handedly built the backend as a Flask app backed by MongoDB. Implemented sentiment analysis using Naïve Bayes classification. Source code
- **Stock prediction using machine learning -** Final year project for my Bachelor. Developed a machine learning model using SVM (Support Vector Machine). Created a prototype in C++ with max prediction accuracy of 75%.

Interests

- I love rock climbing, and bouldering specifically.
- I am into woodworking and have built myself a few pieces of furniture!
- Covid has turned me into a stay-at-home barista. I make myself a cup of single-origin coffee every morning.