

Patrick Tran

Staff Software Engineer

San Francisco, CA, United States | [LinkedIn](#) | [theptrk.com](#)

ML and full-stack engineer with 10+ years building recommendation systems, LLM pipelines, and infrastructure at scale. Experienced training and deploying models to billions of users.

EXPERIENCE

Staff Software Engineer, GenAI

Dec 2024 — Aug 2026

Etsy

San Francisco, CA

Trained transformer models on LLM-generated labels to build efficient distilled models for classification. Led development of LLM pipeline for listing attributes and embeddings powering K-means recommendation algorithms. Built shared GenAI infrastructure including LLM API gateway, agent observability, and evaluation systems.

Applied AI Engineer

Aug 2023 — Aug 2024

Vizibly

San Francisco Bay Area

Built full-stack RAG applications using Django, PostgreSQL, and pg-vector on EC2 with open-source and proprietary LLMs. Evaluated LangChain, LlamaIndex, and Instructor frameworks, then built a proprietary RAG pipeline with function calling. Developed automated evaluation tools to compare model performance across different prompt engineering and context templating approaches.

Software Engineer

Mar 2020 — Nov 2022

Facebook

Menlo Park, CA

Created, trained, and deployed ML models into user-facing tests on the Facebook app affecting 2B+ users. Trained models using PyTorch and open-source libraries (XGBoost, CatBoost) and compared against proprietary gradient-boosted decision tree implementations. Led migration of internal models to open-source XGBoost. Led feature engineering initiative to build new features, clean data, adopt embeddings, and host on company feature store.

Senior Software Engineer

Dec 2017 — Mar 2020

Etsy

San Francisco Bay Area

Built Multi-Armed Bandit solution using Reinforcement Learning to power Etsy homepage and recommendations. Built product features and visual changes to Search and Homepage with A/B testing that added \$18M in incremental revenue. Led initiative to build infinite scrolling explore feed with curated recommendations targeted towards key demographics.

Senior Software Engineer

Sep 2014 — Dec 2017

JPMorgan Chase & Co.

San Francisco, CA

Built front-end application components and financial visualizations for the homepage of [www.chase.com](#). Recruited and interviewed candidates at hiring events and onboarded new developers through training programs.

Equity Research Associate

Jun 2013 — Jan 2014

Cognizant Technology Solutions

New York, NY

Gathered financial data and computed valuation metrics for equity research team focused on Metals and Mining Division of UBS. Passed Level 1 Chartered Financial Analyst Exam.

Founder and Lead Developer

Jan 2013 — Dec 2013

Outstandem

Claremont, CA

Created and deployed a job search management tool at [Outstandem.com](#) for students at Claremont McKenna College. Handled full-stack development with Django and PostgreSQL backend, and Django templates with Bootstrap on the front-end.

Investment Banking Intern

Jun 2011 — Dec 2011

Shoreline Pacific

San Francisco

Worked with senior bankers to drafted term sheets, engagement letters and private placement memorandums. Created pitch books and other marketing material for current and future clients.

Founder

Oct 2010 — Mar 2011

Hao's Inn

Hong Kong

Started a lodging business in Hong Kong and was instrumental in marketing, financing, branding and operations. Worked with developers to design and build website. Currently holds over 500 ratings on [hostelworld.com](#).

EDUCATION

Claremont McKenna College

Sep 2012 — Jun 2013

M.A. in Finance

GMAT: 760 (99th percentile)

University of California, Riverside

Sep 2006 — Jun 2010

Bachelors of Science in Business Administration

PROJECTS

Outstandem

Outstandem is migrating from Django to Node.js better support real time features.

As part of the port, our stack will include Mongo.db and Firebase for data, Backbone on the front end, Python for heavy lifting and some charting library. Likely d3.

Sign up for early access at Outstandem.com

Lead Developer - Iron

Iron is a concurrency focused application framework written in Rust. It provides a rich, flexible, and safe framework on which to build extremely fast scalable servers for real web applications. It is the first framework of its kind in Rust and has seen enormous popularity among users of the language.

I am the lead developer and maintainer of Iron, and have designed and executed the middleware system, error system, request and response representations. I've also led the community that has arisen around Iron, managing contributors, reviewing pull requests, and opening and closing issues.

MedHawk

Medhawk is an app for sharing medical side effects with pharmaceutical companies to empower patients to take charge of the system.

- Led four engineer team as project manager building a self contained application including a RESTful API backend utilizing Express and Mongo with a front end Ionic iPhone app.

- Met all of client expectations on time and on budget. Project delivered iTunes App Store ready and built extensibly for future developer enhancements.

Student textbook marketplace, LectureBreak.org

Co-founded a textbook marketplace platform for students at UC Riverside, addressing the problem of expensive textbook costs in higher education.

Educational content on engineering and machine learning, Technical Blog & Cartoons

Write technical blog posts and draw technical cartoons at theptkr.com covering machine learning, software engineering, and industry insights.

SKILLS

Recommender Systems · JavaScript · HTML 5 · Backbone.js · CSS · Node.js · Software Development · Data Analysis · Analysis · OAuth · d3.js · Analytics · MongoDB · Financial Modeling · Ionic · Leadership · Accounting · Angular · Microsoft Excel · Financial Technology · Research · Financial Research · Equities · Sales · Equity Research · Django · Python · Valuation · SQL · PyTorch · Reinforcement Learning · Functional Programming · LLMs · Transformers · Machine Learning · XGBoost · CatBoost · A/B Testing · RAG · LangChain · LlamaIndex · PostgreSQL · Feature Engineering · Gradient Boosting · Front-end Development · Bootstrap