

Yifeng Huang

me@fyhuang.com
github.com/fyhuang

I aspire to be a **strong generalist** who can make impactful contributions at every stage of taking products from zero to success. I have:

- Built zero-to-one products at early-stage startups (rideOS)
- Worked on deeply technical video encoding & firmware challenges (Nest)
- Led and scaled a team as an engineering manager (YouTube T&S).

I'm a self-motivated learner and can quickly adapt to new technologies and domains. Outside of my day-to-day work, I'm building end-to-end projects to expand my applied ML skills.

Selected Work

Img2loc

Self-directed learning project. Camera-only localization anywhere on Earth (no GPS) with deep learning. Source code: github.com/fyhuang/img2loc

- **Launched [in-browser inference demo](#) using ONNX Web Runtime.**
- **Implemented every stage of an end-to-end deep learning system.**
 - Researched existing academic work and experimented with modeling approaches.
 - Curated 3 custom image-geolocation datasets.
 - Trained multi-label classifier in PyTorch.
 - Packaged finished model and deployed to in-browser demo.
- **Optimized model performance across the pipeline.**
 - Large scale dataset cleaning using clustering based on CLIP embeddings + PCA.
 - Implemented custom Torch metric: Geoguessr score.
 - Wrote library for retrieving large-scale geotagged image datasets from Flickr.
- PyTorch, Lightning, Pandas, TensorBoard, ONNX, OSM, Ansible.

YouTube Trust & Safety

Engineering Manager, Staff SWE

2021-present

- **Grew the team from 3 to 8 engineers and launched 4 major projects in 2 years.**
- **Increased team's ownership and scope to two new areas, covering full end-to-end workflow.**
 - Expanded scope to close severe mismatch between team's product and technical scope.
 - Built new frontend & UI skillset for the team and took ownership over product frontend.
 - Developed new signal computation and data pipelines, and took ownership of serving signals for ML models, rules, and human analysts.
- **Improved productivity ~10x and revamped architecture.**
 - Modernized the product UX and migrated to a centralized, cross-platform tech stack.

- Improved turnaround time from 2-3 quarters for minor changes, to launching new features and surfaces with just weeks of coding.
- **Responsible for full end-to-end stack.**
 - Backend C++ infrastructure processes 150M user flags per month.
 - Integration with abuse review systems and ML filtering models.
 - Frontend in TypeScript, Elements, Wiz Next.

rideOS – autonomous vehicle mapping & routing startup
 Founding Engineer, Tech Lead

2017-2020

- **Developed & launched company's first customer-facing SaaS product.**
 - Led a team of 4 to develop ride hailing API for autonomous vehicle dispatch.
 - Landed company's first client, and helped company find product-market-fit.
- **Helped develop sophisticated routing & dispatch capabilities across the stack.**
 - As a very early engineer, helped design & build key building blocks including:
 - A* routing engine with no-downtime map updates from OSM.
 - Efficient generalized VRP solver for large dispatch problems.
 - Java microservices stack built on GCP: Spanner, GKE, Helm, gRPC, Bigtable.
 - On-vehicle (ROS) and backend integrations with autonomous vehicle partners.

Google (Nest)
 Senior Software Engineer

2013-2017

- **Launched 4k live-streaming on Nest Cam IQ as video stack tech lead.**
 - Led team of 3 to develop brand-new video stack on C++ Android platform.
 - Enabled launch of the company's first 4k Nest Cam.
 - Optimized end-to-end latency 15x (>30s to <2s) by launching multiple projects across the stack (device firmware, cloud backend, iOS/Android apps).
- **Implemented and launched team's first real-time transcoding service.**
 - Solved significant architectural hurdles posed by new 4k camera product.
 - Cloud service written in Go/C++/Cgo, backed by ffmpeg.
 - On-demand, low-latency (# b-frames + 1) transcoding for adaptive live streaming.
- C++, Android platform, h.264, Opus/Speex, ffmpeg, Scala.

Other Experience

- **Computer Vision/Camera Consultant (2020-2021).** Real-time computer vision with CUDA.
- **Dropcam (2013 – acquired by Google).** Firmware engineer on C/Lua codebase with async I/O and green threads. Embedded firmware in C for a battery-powered Bluetooth LE product.

Education

Stanford University, B.S. Symbolic Systems. 2013