ANSTEIN HUYNH

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SUMMARY

Independent builder shipping production AI end-to-end: a live full-stack platform, an orthogonal-rotation adapter method for perceptual image-quality metrics, and a Registry-published ComfyUI node pack.

TECHNICAL SKILLS

Languages | Python (primary), TypeScript, JavaScript, C#, C++, SQL, G-Code

AI & ML | Stable Diffusion (SD 1.5, SDXL, Flux; Full, LoRA, Textual Inversion), Transformers & LLMs, SFT, computer vision (YOLO, AlphaPose, depth mapping), dataset curation & captioning

Perceptual metrics & efficiency | pyiqa / IQA-PyTorch (53 architectures, 103 metric variants, FR & NR), SSIM/PSNR, LPIPS, TOPIQ; OFT/OFTv2 finetuning; int8 ConvRot quantization

Web, infra & data | Next.js (SSR), React, Node.js, REST & GraphQL, headless CMS (WordPress), Tailwind; Linux (Debian), nginx, PM2, Tailscale, OVH VPS, Git; MariaDB/MySQL, SQLite

Agents, tools & 3D | Agent harnesses: OpenClaw, Z-code, DeepSeek Harness; LLM orchestration (GLM/Z.AI, DeepSeek, local), custom CLI tooling (ullmq, comfyq, calendarq), ComfyUI nodes & Registry publishing; PyTorch, Hugging Face; Fusion 360, Blender, CNC milling, laser cutting, 3D printing (FDM/SLA)

PROFESSIONAL EXPERIENCE

Founder & Full-Stack Developer 2026 – Present

QuantumLeek quantumleek.com — Remote

- Architected and built a full-stack AI content platform solo: Next.js + React + TypeScript frontend, headless WordPress (GraphQL) + MariaDB backend.
- Built a TikTok-style vertical feed with real-time interactions, JWT authentication, and a follow system.
- Integrated the Stripe payment API for one-time donations with a full donor management system.
- Deployed production on a Debian VPS: nginx reverse proxy, PM2 cluster mode, Tailscale, Let's Encrypt SSL.
- Designed a modular, multi-harness provider architecture (6 domain-grouped provider files) enabling per-page dependency injection across agent harnesses.

Founder & Technical Lead 2019 – 2021

Manadrop Houston, TX

- Architected an end-to-end digital manufacturing workflow from 3D model design to physical production; sourced materials and machines and ran inventory and production scheduling.
- Designed functional parts and prototypes in Fusion 360 and Blender, turning designs into manufacturing-ready G-code via toolpaths, cut simulation, and DFM.
- Operated 3-axis CNC mills, laser cutters/engravers, and FDM and resin SLA printers for client projects, handling machine setup and finishing.

PROJECTS & INDEPENDENT RESEARCH

RotaSim — Perceptual Similarity via Orthogonal Rotation Adapters github.com/AnsteinHuynh/rotasim

- Trains OFTv2 orthogonal-rotation adapters on frozen vision towers (DINOv3 ViT-B/16; a 460.7M-parameter Qwen3.8-27B). Releases 428K–2.32M-parameter checkpoints rather than finetuning the 86M–460.7M-parameter backbones.
- Bradley-Terry 2AFC pipeline over FGResQ, BAPPS, DiffIQA and NIGHTS: 0.7533 three-corpus preference mean, 0.7619 full-reference mean. Five self-contained release bundles with validation self-tests report run noise and full comparison tables beside the benchmarks.

ComfyUI-pyiqa-toolbox — Published Image-Quality Node Pack registry.comfy.org/ansteinhuynh/pyiqa-toolbox

- Published node pack (10 nodes, Registry v0.2.1) wrapping pyiqa: one generic loader reaches 53 architectures and 103 metric variants (NR scoring, FR comparison) instead of one node per metric.
- int8 ConvRot quantization for Q-ReAlign (per-channel int8 + group-256 Hadamard rotation on weights and activations): 17.5 to 11.55 GiB VRAM at 0.0008 mean score deviation, no ranking flips.
- Release-gated on a 2,263-line, 308-assertion smoke suite that regenerates the public metrics docs from the node catalog.

AI Agent Infrastructure — OpenClaw, Z-code, DeepSeek Harness

- Multi-harness agent infrastructure across OpenClaw, Z-code and DeepSeek Harness: LLM orchestration over multiple providers, persistent memory, and Matrix/web channels.
- Custom CLI tooling (ullmq, comfyq, calendarq), scheduled cron automation for briefings and check-ins, and media pipelines for download, transcription and vision captioning.

Custom AI Development & LLM Analysis 2022 – 2026

- Trained Stable Diffusion models (SD 1.5, SDXL, Flux) via Full, LoRA and Textual Inversion; built a token analyzer for cosine similarity and a custom LR scheduler for training stability.
- Automated training-data pipeline: video frame extraction, face-detection cropping, BLIP captioning, manual quality review.
- Analyzed LLM inference parameters (temperature, top-p, min-p) and built a tool measuring first-token probability distributions across thousands of prompts.

Computer Vision, 3D & Manufacturing

- YOLO classification/labelling pipelines for SFT datasets; AlphaPose with a calibrated multi-camera rig to extract 3D skeletal data and export rigged FBX animation.
- DepthAnythingV2 depth maps plus custom Python and C# scripts to turn 2D references into 3D point clouds and Unity-ready meshes; working formats STL, OBJ, FBX and STEP.
- Self-playing Mahjong AI in C++ with a Python training loop: a custom transformer handling imperfect information (discard history, own hand, visible melds) to predict discards and bets.

EDUCATION

Bachelor of Science, Double Degree in Computer Science and Mathematics 2022
University of Houston Houston, TX · GPA 3.436

Bachelor of Business Administration, Major in Supply Chain Management 2017
University of Houston Houston, TX · GPA 3.53

ADDITIONAL EXPERIENCE & HOBBIES

- **AI Game Development:** built a complete Unity3D personal game project — C# game mechanics, 3D environment design, and a trailer.
- **Custom Software Tools:** continuous development of utilities and modifications for AI workflows (ComfyUI/A1111 custom nodes, scripts).
- **3D Modeling & Printing:** hobbyist design and printing of complex 3D models in STL, OBJ, FBX, and STEP.