
Chris Lech

AI / Machine-Learning & Full-Stack Engineer

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PROFILE

AI & full-stack engineer who builds and ships complete products solo — from generative-AI pipelines to live, secured deployment. I deploy and tune generative-AI systems (including the harder AMD/ROCm path), build 3D-reconstruction pipelines, and wrap ML for non-technical users — then deliver the backend, web app, and hardened infrastructure around it. Recently designed and launched **ai3d.pro**, a live, paid AI product, entirely end-to-end.

CORE SKILLS

AI / ML	Stable Diffusion · SD Forge · AMD ROCm · PyTorch (ROCm) · AI image pipelines · Gaussian Splatting (OpenSplat) · Meshroom / AliceVision · rembg · Gradio · photogrammetry
Backend / Web	Python · FastAPI · REST · JWT auth · Stripe · PayPal · Three.js / WebGL · Web Audio API · JavaScript
DevOps / Infra	Docker / Compose · Linux (Debian/Ubuntu/Arch) · nginx · VPS admin · Let's Encrypt / TLS · KVM / libvirt · Cloudflare / DNS · security hardening (ufw, fail2ban, audits)
Embedded / Systems	ESP32 / Arduino · RF / SDR · C / C++ · PyQt5 · OpenGL

SELECTED PROJECTS

ai3d.pro — Live, paid AI music-visualizer · **SOLO, END-TO-END**

Designed, built and launched a real-time **WebGL/Three.js** audio-reactive engine (Web Audio FFT + beat/BPM detection, GPU tiering, adaptive frame-rate). Built a **FastAPI** payment backend with **Stripe + PayPal**, signed JWT session passes, and **nginx access-gating**. Added self-hosted cookieless GeoIP analytics (city-level 3D globe), full SEO, and a security-hardened Ubuntu VPS. Live, HTTPS, payment-enforced.

Generative AI on AMD / ROCm · **ML ON CONSUMER HARDWARE**

Deployed **Stable Diffusion WebUI Forge** on an AMD RX 7800 XT via **ROCm**, and built/ran an **OpenSplat Gaussian-Splatting** 3D-reconstruction pipeline (Meshroom SfM front-end, rembg) on AMD — including human-body reconstruction. Wrapped pipelines in Gradio UIs.

Self-hosted infrastructure · **DOCKER / LINUX / SECURITY**

Deployed and secured **Nextcloud** (Raspberry Pi + VPS), a **Mailcow** mail server, **Kavita** media server, a custom **Pi-hole** Home Assistant add-on, and **nested KVM VMs** on a VPS — Docker, nginx, TLS, DNS and hardening throughout. *This CV and my portfolio site are self-hosted on infrastructure I manage.*

Embedded / IoT · **FIRMWARE**

ESP32 firmware streaming a doorbell live-feed to a display via Home Assistant; a 433 MHz RF sniffer for Honeywell thermostats; an RTL-SDR desktop suite.

Systems & desktop · **C / OPENGL**

Real **C** contributions to the EDuke32 game engine (GTK loader, custom UI tab, Wayland crash fix); PyQt5 + OpenGL desktop apps.

How I work: clear scoping · check-ins before big assumptions · verify by actually running it · documented, secured, maintainable handover.

● **Availability:** open to freelance & contract work — remote, UK-based.