

Kayla Doiron

AI ENGINEER · FULL-STACK DEVELOPER · UNMANNED SYSTEMS

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PROFILE

AI Engineer and Full-Stack Developer who ships production AI products end to end, from model integration and data pipelines to the app, the API, and the cloud it runs on. Co-founder and CTO of an AI platform live with real users. Trained in unmanned systems at Embry-Riddle, with a decade of creative direction behind the systems I build.

EXPERIENCE

Co-Founder, CTO & Lead AI Engineer

2024–Present

Colectiv · AI collective-intelligence platform

- **Architected and shipped the platform end to end:** React/TypeScript front end, Node/Express + Python services, PostgreSQL, Redis & MongoDB, live in production with real creators.
- **Built a self-hosted model stack** (PyTorch, Transformers vision models, LoRA fine-tuning, ChromaDB RAG) to power the product's AI features.
- **Engineered real-time voice & video** on a mediasoup WebRTC SFU with Stripe payments; deployed on Cloudflare, Railway & Docker.
- **Shipped the cross-platform mobile app** in React Native & Expo, released through EAS Build.

Founder & Creative Technologist

2022–Present

Visionspace · Digital studio

- **Design and build full-stack, AI-driven web products** for clients, concept through production deploy on Cloudflare.
- Bridge engineering and design to ship future-facing digital experiences and original projects.

Founder & Creative Director

2015–Present

KD Studios · Photography, film & art

- **Built kayd.dev**, a full-stack Flask site: blog CMS, image/video pipeline, and a live Stripe + Printful store, designed and coded solo.
- Run end-to-end photo and video production (direction, capture, and post) across a decade of client and editorial work.

SELECTED PROJECT

Kestrel · Autonomous Drone-Racing AI

AI Grand Prix

Independent · autonomy & reinforcement learning

- **Built an end-to-end RL drone-racing pilot:** a PPO policy (PyTorch) flies a simulated quadrotor through gates from YOLO vision, exported to ONNX and bridged to flight hardware over MAVLink.

EXPERTISE

Engineering

Python · TypeScript · React · Node/Express · Flask/FastAPI · PostgreSQL · Docker

AI / ML

Self-hosted LLMs · PyTorch · Transformers · LoRA/PEFT · RAG (ChromaDB) · Whisper · Replicate

Unmanned Systems

UAV operations · Mission planning · PPO reinforcement learning · YOLO/ONNX · MAVLink · Sensor integration

Cloud & Real-Time

Cloudflare (Pages · R2) · Railway · Redis · WebRTC (mediasoup) · Socket.IO · Stripe

Creative

Photography · Film & video · Unity/Blender · Adobe Creative Suite

EDUCATION

Unmanned Systems Applications

Embry-Riddle Aeronautical University · B.S. coursework
2020–2023

Photojournalism & German

Loyola University New Orleans
2006–2008

CERTIFICATION

Project Management · edX, 2020