Olivier Couthaud

Robot learning · simulation · software

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Reimplements a published drone-control method in simulation and reports what held and what did not. Also builds 3D rooms from phone video and an ECG identity network on public recordings. Nothing has run on hardware yet.

2.5× apparent gap that came from the paper's evaluation start (T/4)	**0.040 m** figure-eight error, first policy, 3 seeds (paper: 0.028 m)	**1,892** Balatro actions replayed against the real game, no real mismatches	**10% → 98%** night photos placed after a pose-method change (splats)

PROJECTS

Fault-tolerant quadrotor control simulation only — github.com/forkei/fault-tolerant-quadrotor

- Reimplemented the published SimpleFlight recipe (PPO) on MuJoCo MJX and JAX, about 70,000 steps per second on one RTX 4070. Found its evaluation code starts the figure-eight at T/4, not t = 0: a fault-trained policy looked 2.5 times worse until both used the same start.
- Added RMA-style adaptation to one rotor at 70% thrust: 0.057 m healthy (0.040 m before), 0.081 m with the fault; fast runs with the fault crashed on 2 of 3 seeds. Separate depth-camera obstacle policy: 92% of fair scenes collision-free, 52% with the fault. Repository: first policy and fault setup only.

Gaussian splats and House23D one room checked — oliviercouthaud.com/splats

- Pipeline from phone video to Gaussian splat around COLMAP, hloc and nerfstudio (about $0.40 a run); a pose-method change took a night scene from about 10% of photos placed to 98%. House23D: a bedroom rebuilt as a scaled Blender model, checked against its photos.

Balatro, simulator checked against the real game in progress — oliviercouthaud.com/balatro

- Rust copy of the game replayed against the real game (1,892 actions in two passes), no real mismatches. Agent trained in it on about a billion moves wins about 2 in 3 games on White stake, the easiest difficulty.

HeartbeatID, ECG identity network public data, one seed — oliviercouthaud.com/heartbeatid

- 0.1M-parameter network on PhysioNet ECG-ID: 92.4% top-1 on 10 held-out people, tested on a different day; one seed, small test set, public recordings.

EXPERIENCE

AI platform engineer, agentic QA, Third Axis AI — From Nov 2026

- Part-time contract: building a harness of automated agents to test an AI-employee product.

Contract developer, Adapter Group — May – Sep 2026

- Built agent prototypes on a knowledge-graph platform's API for a client. Details confidential.

Contract developer, Metropolis World — Apr – May 2026

- First phase of an AI-character platform in four weeks: a chess-playing character with memories and emotions.

President, RIT AI Club — Sep 2025 – May 2026

- Guest speakers, events, workshops (10 to 50 in person per session) and a self-paced AI learning platform.

Software tutor, Wyzant — Jun 2025 – Mar 2026

- Built at least six client projects and walked each client through them.

EDUCATION

Rochester Institute of Technology, New York — Sep 2024 – Jan 2026

- Computer science, accelerated BS/MS. Not completed: left in January 2026 to build full time.

SKILLS

ML and simulation	JAX, MuJoCo MJX, PyTorch, PPO, COLMAP, nerfstudio, Blender
Languages	Python, Rust, TypeScript, Dart (Flutter)
Systems and tools	Docker, Linux, GCP, PostgreSQL, FastAPI, MCP, Gemini and Anthropic APIs
Human languages	English and French, both native