

Aiden Fox

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Education

University of Southern California (USC) — Los Angeles, CA

Aug 2024 – Dec 2027

BS Computer Engineering & Computer Science, GPA 3.61

Leadership: E-Board Theta Tau, E-Board Beta Theta Pi (Rush Chair), Treasurer of Quantum Engineering and Ethics.

Experience

ML / Fullstack Software Engineer Intern, Motif Inc. — Remote

May 2026 – Present

- Architected an LLM deep-research platform feature from 0 to 1 into a model-agnostic, reusable framework that downstream product features compose on: one tool interface over two interchangeable provider backends, a thin base skill plus domain skills, and 24 mocked per-provider tests.
- Root-caused a Kubernetes/Helm deployment gap that had silently broken every LLM-backed workflow node in one environment: proved from the live cluster that the async worker had no LLM API credentials and a memory limit 13x too small, shipped the fix, and added a config-preflight test so the class of gap fails loudly in CI.
- Designed a typed tool-provider registry so each workflow run receives only the tools its own spec declares and name collisions fail loudly; 30 saved workflows by 11 authors run through that path.
- Built an idempotent one-command dev-environment installer and stack launcher (~1,300 lines of Bash; AWS SSO, Kubernetes, Docker), cutting onboarding from 1-2 hours to minutes; used to onboard the company CTO and adopted as the base of the team's official launcher.

Software Engineer, Contract, Energy Connect — Remote

May 2026 – Present

- Shipped ATOM, an in-app AI assistant whose capability map is generated from the live API surface and guarded by a CI drift check, so the agent's knowledge of available actions cannot silently fall out of sync with the application.
- Closed 740 tracked issues across four customer portals of a multi-tenant logistics platform.

ML / Fullstack Software Engineer Intern, Motif Inc. — Remote

May – Dec 2025

- Cut batch-processing time ~65% by scaling an OCR-routed SageMaker captioning pipeline across 22,000+ images with multi-GPU EC2 sharding.
- Built a speech-to-text comment feature from prototype to product integration, cutting audio preprocessing ~2x and moving the backend to Lambda, SQS and presigned S3 upload.

Product Engineering Intern, Advanced Image Robotics — San Diego, CA

Nov 2023 – May 2024

- Shipped 26 production AIR One cameras with embedded multi-axis control and stability verification, and integrated a Raspberry Pi 4 animation system driving startup sequencing and camera UX.

Projects

GitSpider, CI Monitoring SaaS

Bun, Hono, Postgres, Stripe, Fly.io

- Built and launched a solo production SaaS monitoring GitHub Actions CI, detecting p95 runtime regressions, flaky tests, and wasted runner minutes, then commenting the regression and blame commit on the pull request.
- Shipped the full stack to paying users: webhook ingestion with a polling backstop, daily rollup pre-aggregation, Stripe billing with entitlement gating, and Sentry monitoring.

Fennec Autonomous Quadruped

Teensy 4.1, micro-ROS, ROS 2 Humble, LIDAR-Inertial SLAM

- Built a Feitech STS3215 half-duplex bus driver from scratch with no vendor SDK dependency, covered by frame-encoding and bus-timing unit tests, on a 200 Hz IntervalTimer ISR control loop with a software watchdog.
- Designed a custom 4-layer power distribution board in KiCad (buck regulator rails, INA226 per-rail current telemetry, MOSFET reverse-polarity chain); DRC/ERC clean, fabricated, in bring-up.

Technical Skills

Languages: C, C++, Python, Java, JavaScript, TypeScript, Verilog

AI Agents & LLM Systems: LLM tool-calling and agent runtimes, OpenAI + Anthropic APIs, prompt engineering and evaluation, A/B prompt experiments

Embedded & Hardware: Cortex-M7 firmware, FPGA (Xilinx, Vivado), RTOS, KiCad, PCB bring-up, I2C/SPI/UART, logic analyzers, oscilloscopes

Robotics & Real-Time: ROS 2, micro-ROS, LIDAR-Inertial SLAM, Jetson, ISR control loops, watchdogs and safety FSMs

Cloud & DevOps: AWS (Lambda, SQS, SageMaker, EC2, S3), Docker, Kubernetes, Helm, Postgres, GitHub Actions, GitLab CI/CD, pytest