JOSEPH MANNING ELLIS

Los Angeles, California | 502-655-6998 | jsphellis.2020@gmail.com | linkedin.com/in/jsphellis | github.com/jsphellis

TECHNICAL SKILLS

Languages & Frameworks: TypeScript | Python | SQL | R | C++ | React | Next.js | Node.js | tRPC
AI / LLM Systems: Agent orchestration | Context engineering | Multi-agent systems | Evaluation harnesses | RAG
Machine Learning: PyTorch | TensorFlow | Pandas | NumPy | Computer Vision | Deep Learning | LoRA fine-tuning
Platform & Reliability: PostgreSQL | Supabase | Redis | Trigger.dev | GCP | Docker | OAuth 2.0 | Tracing | CI

WORK EXPERIENCE

AI Software Engineer - Buildy January 2026 – Present

Marketing Platform: Organic Social, Paid Ads & AI Media

- Built the Facebook, LinkedIn, X, and TikTok publishing integrations behind a single publish path that handles four different auth models and media constraints.
- Built the Google Ads integration from zero: OAuth, conversion tracking, tag injection, Search campaigns, and Demand Gen across video, image, and carousel, shipped behind staged launch gates.
- Shipped an AI media library that generates images and video across multiple model providers, with native credit metering and publishing to social platforms.
- Selected the production video model through controlled comparison across providers, running render-level tests before switching the default rather than trusting vendor claims.
- Rebuilt AI content generation around one subagent with per-platform skills, in place of a chain of per-platform LLM generators, raising user approval of generated posts.
- Engineered the correctness layer behind Meta and Google campaign publishing and budgets: multi-currency handling, campaign budget optimization, and idempotent writes that reconcile against remote state.

Course Hub

- Built Course Hub, a product that takes a creator from a topic to a sellable course: AI-authored lessons, offers and pricing, publishing, narration with voice selection, and an AI tutor.
- Designed the preview/publish split for course content so creator edits reach learners only on publish, matching how project code already shipped.
- Shipped guest checkout where an account is created after payment and only on proof of payment, with creator payouts going directly to their own Stripe account.

Agent Platform

- Built context management for the long-running chat agent: history compaction with rolling checkpoints, bounded context seeding, and honest failure reporting when a run exhausts its budget.

Machine Learning Engineer - PushButton.AI January 2024 – December 2025

- Built the production backend for an automated course-generation product: a FastAPI service with async task tracking and a Celery and Redis pipeline with retry and model fallback.
- Benchmarked open-source models against hosted ones under sustained load, producing the latency and token datasets behind model-selection decisions and reducing API cost.
- Deployed across separate web, worker, and Redis containers with Docker Compose, with hybrid research over user-supplied documents and live web search.

Co-Founder | Backend Engineer - Ovrsee May 2024 – October 2024

- Hand-wrote a Passport.js TikTok OAuth strategy and a token-refresher service on Google Cloud Functions, keeping long-lived creator connections alive without user intervention.

TECHNICAL PROJECT

Multi-Agent LLM Simulation & Evaluation Framework 2025

- Built a configurable multi-agent LLM simulation framework modeling social deduction dynamics (deception, persuasion, theory-of-mind) with structured observation/action loops and role-based state transitions
- Designed a config-driven experiment and evaluation pipeline benchmarking agent behavior across 499 games and 5 configurations. LoRA fine-tuning raised persuasion 321% and consensus from 45% to 80%.

EDUCATION

University of Southern California — M.S., Applied Data Science (Viterbi) May 2026
Chapman University — B.S., Data Analytics, Minor in Business Administration May 2024
Coursework: Deep Learning & Computer Vision (graduate level, taken as an undergraduate), Machine Learning

HONORS

Magna Cum Laude | Program Honors Chapman University
Provost's List (7 Semesters) | Dean's List (1 Semester) Chapman University
Excellence in Computing Studies Association for Computing Machinery