

Joseph Draper

Applied AI Engineer

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Profile

AI-native engineer who turns messy, real-world workflows into reliable AI systems. Leveraging a 6-year high-performance commercial background, I pivoted to deep-stack engineering to solve the exact operational bottlenecks I used to manage. I combine a consultant's polish with deep hands-on expertise in complex multi-agent orchestration, production RAG, and real-time voice - building the vision end-to-end.

Technical Skills

- **AI & Agent Systems:** OpenAI Agents SDK, Claude Agent SDK, Vercel AI SDK, OpenAI, Anthropic, xAI, Moonshot, OpenRouter, Exa
- **Evaluation, Tracing & Reliability:** Langfuse, LangSmith, OpenTelemetry, Temporal, Promptfoo
- **Data, Retrieval & State:** Postgres, Supabase, Pinecone, Cohere Rerank
- **Realtime Voice & Communications:** OpenAI Realtime, Whisper, Deepgram, ElevenLabs, WebRTC, SIP.js, Kamailio, RTPengine
- **Application Engineering:** TypeScript, Python, FastAPI, Next.js, React, Express, Tailwind CSS
- **Cloud & Deployment:** Docker, Vercel, Cloudflare Workers, GCP, Vertex AI, Azure Foundry
- **Agentic Development Tooling:** Codex, Claude Code, Gemini CLI, Cursor, MCP-based workflows

Selected Projects

Arkwright Millwright | Agentic dialler and CRM automation tool for recruitment agencies

- **Impact:** Reduced the research-to-wrap sales cycle by ~40 hours per consultant per month.
- **Architecture:** Built an event-driven AI pipeline orchestrating WebRTC telephony (Kamailio/RTPengine), web research (Exa), and speech-to-text (Whisper).
- **Reliability:** Wrapped all long-running operations - including a strict 120-second prep pipeline - inside Temporal workflows to ensure idempotency, observable state, and automatic retries.
- **Integration:** Designed a "Bring Your Own Trunk" (BYOT) adapter layer so clients could keep existing PBX providers, alongside strict Postgres RLS for multi-tenant data isolation.

Arkwright Paperclip | Multi-agent orchestration platform

- **Impact:** Solved multi-agent scaling issues by implementing shared context, strict monthly API budgets, and human-in-the-loop approval gating for an autonomous AI marketing team.
- **Architecture:** Leveraged React 19, Express 5, and PostgreSQL, utilizing a bespoke event-driven heartbeat system so agents consume zero compute resources when idle.
- **Extensions:** Engineered an end-to-end pipeline featuring a drag-and-drop RRULE slot scheduling engine, PostBridge API integration, and a persistent skill-injection feedback loop.

Enterprise Logistics Integration Agent | Sorted.com via Hunnyware

- **Impact:** Eliminated ~40 hours of manual technical research per new carrier integration.
- **Architecture:** Designed a hierarchical multi-agent system on Azure AI Foundry, where a reasoning orchestrator delegated mapping tasks to specialized worker agents.
- **Tool Use & RAG:** Equipped agents with Postman CLI access to actively generate synthetic payloads and verify sandbox API behaviours, grounded by a Pinecone/Cohere RAG pipeline.

Experience

Arkwright – Founder, AI Engineer

Jan 2026 – Present · Remote – UK

- Founded Arkwright as a vehicle for AI advisory and hands-on engineering delivery, utilizing a fractional model to embed deeply into client operations.
- Partnered with mid-market leadership teams to design systems architecture, advising on AI adoption, security, observability, and cost optimization.
- Packaged complex internal agent platforms - featuring multi-tenant isolation, approval gates, and deterministic guardrails - for rapid deployment into client-facing workflows.
- Authored technical enablement materials and designed self-hosted tooling to upskill internal client teams, reducing their dependency on direct engineering support.

Hunnyware – Freelance, AI Engineer & Consultant

Feb 2024 – Jan 2026 · Remote – UK

- Delivered AI implementations end-to-end, managing everything from initial stakeholder discovery and solution design through to agent orchestration and workflow delivery.
- Facilitated "AI Council" roundtables and training workshops for enterprise clients, upskilling engineering teams on modern agentic development, MCP-based tooling, and evaluation practices.
- Audited client APIs for agent-native readiness, reworking documentation and exposing MCP servers where appropriate to drastically improve developer experience.
- Acted as the technical liaison between clients and external AI vendors, coordinating complex rollouts alongside client-side L&D teams to ensure smooth internal transformation.

Earlier Career – Commercial & Client-Facing Roles

2018 – 2024 · Liverpool / Manchester / Remote – UK/US

- **Elsdon Consulting** – *Principal Recruitment Consultant*: Second hire in the Manchester office; brought in 3 F500 clients, became a top biller and built a small team focusing on complex, hard-to-fill roles across Data Science & Machine Learning.
- **Evolution Recruitment** – *Senior Consultant*: built an embedded software engineering desk from scratch in the Cambridge market, worked closely with hiring managers on critical hires.
- **Enterprise Rent-A-Car** – *Graduate Scheme*: Fastest promoted trainee in the group's history. Managed a team in one of the largest regional branches (Liverpool City Centre); delivered strong sales and operational performance, improved underperforming locations with sales coaching.

Education

University of Liverpool

Bachelor's Degree: Business Management (2:1)

Bacup & Rawtenstall Grammar School

A-levels: Business Management (A), Economics (A), Psychology (A), General Studies (A*)*