

AI Systems Architect & Full-Stack Builder with 6+ years engineering production AI pipelines, autonomous multi-agent runtimes, and high-adoption internal studio tools (from early GAN pipelines in 2019 to sovereign Linux agent infrastructure). Founder of **ANKLE OS** (selected for the **Anthropic for Startups** cohort). Specializes in bridging deep backend engineering (Python/FastAPI, multi-provider tool calling across Claude/OpenAI/Gemini, hybrid MiniLM vector + FTS5 BM25 RAG, OpenTelemetry tracing, and deterministic verification kernels) with bespoke operational dashboards, multimodal studios, and enterprise workflow automation.

PROFESSIONAL EXPERIENCE & SYSTEMS ARCHITECTURE

ANKLE OS (ankle.website / aleqth.com) — Founder & Principal AI Systems Architect

Jun 2023 – Present | New York, NY

- Anthropic for Startups Cohort & Sovereign OS:** Selected for Anthropic's startup cohort; architected a full-stack Linux/FastAPI operating environment on AWS EC2 uniting 48+ creator worlds, self-serve browser studios, paired agent co-pilots, and real-time voice/terminal execution.
- Multi-Provider Tool Calling & Agent Relay ('Baton'):** Engineered asynchronous Python tool-calling loops across OpenAI (*tool_calls*), Anthropic (*tool_use*), and Gemini (*functionCall*), plus the **Baton** multi-agent relay and **Scoped Surface Keys** for zero-friction human-agent co-editing.
- Hybrid RAG, Vector Search & /DADA Protocol:** Built multimodal semantic retrieval across **400,000+** cultural/visual artifacts (SURF) using SentenceTransformers (*all-MiniLM-L6-v2*) float embeddings, SQLite FTS5 BM25 lexical ranking, and 5-layer (L0–L3/X) semantic decomposition.
- Deterministic Verification ('Doctor Protocol') & Observability:** Implemented an Ed25519-capable verification kernel running Provenance (D), Attribution (B), and Grounding (C) gates with round-trip retrieval evaluation and OpenTelemetry SDK span tracing to prevent model drift.

HelloFresh — Enterprise AI Pipeline & Studio Operations Consultant

Jan 2026 – Jul 2026 | New York, NY

- Executive Producer (EP) Studio Dashboard:** Architected and deployed a custom production operations dashboard adopted by the internal photo studio team, interfacing directly with **Kelvin** and **Creative Force APIs**.
- High-Throughput Workflow Automation:** Automated recipe shot-list parsing, talent/set scheduling, and AI retouching/asset staging pipelines across hundreds of daily commercial deliverables, eliminating multi-tool manual bottlenecks.

TITLES (titles.xyz) — AI Systems & Model Context Protocol (MCP) Consultant

Apr 2026 – Jun 2026 | Remote / New York, NY

- Native MCP Server Architecture:** Designed and implemented Model Context Protocol (MCP) servers and function-calling schemas enabling Claude, Cursor, and OpenAI agents to dynamically discover, parameterize, and run artist-trained foundation models.
- Structured Agent-Creator Bridges:** Built validated JSON handoff schemas and browser developer portals that translate natural-language creative direction into deterministic generative pipeline parameters.

SuperRare (superrare.com) — Digital Systems & Curation Consultant

Feb 2023 – Apr 2026 | New York, NY

- CLI, Artist Studio & Smart Contract Advisory:** Prototyped and shipped improvements to SuperRare's CLI and Artist Studio products, conducting UX reviews and advising leadership on decentralized metadata standards, provenance, and smart contract development.
- Client Consulting, Brand Strategy & Sponsored Collaborations:** Consulted directly with clients on product adoption while curating exhibitions, hiring production teams, leading brand strategy, and executing sponsored collaborations utilizing frontier blockchain technology.

Eden (eden.art) — Generative Systems QA & Pipeline Engineer

Jun 2022 – Dec 2024 | New York, NY

- Frontier Diffusion & Node Architectures:** Partnered with RunwayML's leading engineers to stress-test, debug, and optimize ComfyUI and multi-generator node pipelines across **19,000+** Stable Diffusion and generative video runs.
- Empirical Benchmarking & Failure Analysis:** Evaluated inference latency, prompt adherence, and failure modes across model checkpoints, translating technical findings into UX and pipeline reliability improvements.

Warner Records & Hallwood Media — Creative Director & Generative Systems Lead

Jan 2020 – Dec 2023 | Los Angeles / New York

- Commercial Systems & Campaign Direction:** Directed end-to-end visual systems, 3D/motion pipelines, and interactive rollouts for major-label recording artists, generating millions of global impressions.
- Early Deep Learning & Generative Protocols (2019–2022):** Pioneered early GAN visual synthesis (BigGAN, StyleGAN in Google Colab) for commercial treatments and engineered algorithmic recombination engines in Python (Pillow/NumPy/OpenCV) and JavaScript (p5.js).

FULL-SPECTRUM TECHNICAL & PRODUCT CAPABILITIES

Agentic AI & Protocols:	Multi-Provider Tool Calling (Anthropic, OpenAI, Gemini), Model Context Protocol (MCP), Autonomous Hermes Swarms, Baton Multi-Agent Relay, Scoped Surface Keys, Duplex Realtime Voice (WebSockets / 24kHz PCM)
RAG, Retrieval & Evals:	SentenceTransformers (all-MiniLM-L6-v2), Dense Vector Cosine Matching, SQLite FTS5 / BM25 Lexical Search, Version-Conflict Detection, L0–L3 /DADA Semantic Indexing, Top-K / MRR / Recall Evaluation
Verification & Telemetry:	Doctor Protocol (Provenance D, Attribution B, Grounding C, Ed25519 Verdict Envelopes), OpenTelemetry SDK (Traces, Spans, In-Process Exporters), Deterministic Schema Validation, Adversarial Fault Injection
Backend & Cloud Infra:	Python 3 (FastAPI, asyncio, NumPy, Pillow, OpenCV, ReportLab, Pytest), JavaScript/TypeScript (Node.js, HTML5 Canvas, Web Audio), SQLite WAL, Linux Bare-Metal (AWS EC2, systemd, Nginx), Docker, Git, Solana/EVM
Product & Visual Craft:	Forward-Deployed Enterprise Tooling, Ankle96 Brutalist UI System, Studio Automation (Kelvin / Creative Force APIs), Diffusion & Video Pipelines (ComfyUI, FLUX, Midjourney, Runway, Kling, ElevenLabs TTS)

EDUCATION

Towson University — Undergraduate Studies in Art, Visual Systems & Interactive Media

Towson, MD