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Summary

Building production AI systems that improve themselves under human oversight. Background spans sub-millisecond trading gateways (150K contracts/day) to enterprise platforms (750M+ documents). Actively building and testing Patina, an open-source cognitive agent framework on Claude Agent SDK with belief graph architecture, graduated autonomy, and MCP integration. At AWS, built and shipped a production agentic system (5,000+ global active users, 90%+ org adoption) and published an open-source MCP server (16,000+ monthly installs). Extensive experience in agent orchestration, distributed systems, API design, and evaluation infrastructure.

Open Source

Patina: Cognitive Agent Framework (2026) | github.com/Sanctum-Origo-Systems/patina

Cognitive agent framework implementing belief graphs, graduated autonomy, and persistent memory via MCP with three-layer architecture: messaging gateway, Claude Agent SDK runtime, and cognitive MCP server. 18,000+ lines Python, 700+ tests.

- Created belief extraction pipeline: LLM-based entity/relationship extraction from unstructured messages into a queryable graph
- Applied a graduated autonomy model where agent decision-making authority grows or shrinks based on measured confidence per domain
- Implemented MCP server exposing 40+ tools for memory, prioritization, profiling, and introspection to maintain portability across different agentic clients

Autoloop: Governed AI Build Pipeline (2026) | github.com/Sanctum-Origo-Systems/autoloop

Config-driven pipeline that triages, decomposes, and implements GitHub issues autonomously under human oversight. One-command setup, language-agnostic, running in production.

- Built governed execution model: protected paths prevent the pipeline from modifying its own infrastructure or safety boundaries
- Implemented serial dispatch with dependency ordering to eliminate merge conflicts in autonomous multi-issue runs
- Designed for adoption: `autoloop init` scaffolds onto any repo with existing CI, zero framework lock-in

Experience

AWS, APEX Agentic AI Team | 2022–Present

Agent Infrastructure (2025–2026):

- Built and shipped Delivery Agent, a multi-step agent orchestration system for software delivery workflows (Python, TypeScript, MCP protocol, LLM reasoning). Scaled from 0 to 5,000+ global active

users (90%+ org adoption) across 6 regions within 8 months and led LATAM and APJC technical roadshows (10 countries, 900+ engineers) to drive adoption from builders

- Co-authored ATLAS, an automated evaluation framework measuring agent output quality via precision/recall/F1. Deployed as CI/CD quality gate across 2,500+ concurrent users. Submitted to Amazon Science for peer review
- Published document-loader MCP server (awslabs, open source): structured content extraction from PDF/DOCX/XLSX/PPTX/images. [16,000+ monthly downloads](#)
- Developed Python dev tools: spec-package diff engine (LLM + structural comparison, 10 min vs. 4 hours manual), cross-framework workflow sync tool (1 sprint compressed to 1 day)
- Designed S&P Global agent migration architecture: LangGraph agents and MCP tools to AgentCore Runtime with state migration strategy

Enterprise AI Systems (2022–2025):

- Shipped AI-powered document intelligence platform for AIG: 750M+ documents, 165K daily ingestion, multi-region (NAMER/EMEA/APAC). OpenSearch + Textract pipeline with sensitive payment detection
- Developed production RAG system for DTCC (public-facing): Claude 3.5 Sonnet, cross-region inference, 60+ concurrent users, financial regulatory compliance
- Built authorization system for FIS Global using Amazon Verified Permissions: 30x cost reduction, multi-tenant RBAC/ABAC

Legal & General Investment Management America | 2018–2022

Full Stack Developer

- Built serverless event-driven portfolio performance calculation platform for quantitative trading team (Lambda, ECS, Kafka)

Performance Trust Capital Partners | 2013–2018

Lead Developer

- Built proprietary bond analytics engines (CMOs, MBS, munis) and ML models for pricing/asset classification. Decomposed legacy monolith into 20+ microservices (Redis, RabbitMQ, Docker)

R.J. O'Brien & Associates | 2010–2013

Trading Systems Developer

- Built CME Globex trading gateway: 25,000 orders/day, 150,000 contracts, sub-second execution (FIX/FAST protocol). Custom routing gateway for Morgan Stanley

Earlier Career: Newedge/Société Générale, Dell, SEI | 2003–2010

Education & Speaking

BS Computer Science, University of Wisconsin-Madison

Speaking: re:Invent 2023–2025, LATAM Agentic AI Tour 2026 (4 countries), APJC Agentic AI Tour 2026 (6 countries)