

Jeremy Brinkworth

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Active SECRET Clearance

SUMMARY

Agentic AI engineer and systems designer shipping production AI systems end-to-end, from Model Context Protocol (MCP) servers and agent orchestration to edge hardware and embedded firmware. Production experience across Python, PostgreSQL, Cloudflare Workers, and Amazon Bedrock.

EXPERIENCE

Lead AI Engineer | RevUp AI | Dec 2025 – Present | Remote

- Lead engineer for RevMigrate, an agentic SQL Server → PostgreSQL migration system on Amazon Bedrock with async phase orchestration and per-object context assembly; delivered 100% POC success.
- Hardened migrations with timeout handling, retry/backoff, and SQL validation gates (fail-fast syntax/compile checks before execution).
- Upgraded the Agentic QA platform codegen pipeline (UNSW web team) and lifted Ghost Inspector triage accuracy from ~0.24 → ~0.68 via self-consistency ensemble evaluation.
- Cut CI/build time from ~4h → ~10m (Docker caching + Poetry fixes); removed a multi-minute UI stall by parallelizing DB connection checks.

Founder / Product & AI Systems Lead | Luna AI Platform | Feb 2025 – Present | Charlotte, NC

- Build and operate Luna Hub Lite, a publicly accessible AI platform at lunahub.dev. Three-app React SPA backed by PostgreSQL on Supabase (31 tables), Cloudflare Workers, and Vercel.
- Cloudflare Workers MCP server at mcp.lunahub.dev exposing 65 tools across 5 extensions (Obsidian, Todoist, Home Assistant, ChefByte, CoachByte) over Streamable HTTP + SSE, with OAuth 2.1 via Supabase and hashed API-key auth.
- OpenAI-compatible chat-completions endpoint with tool-call streaming and multi-round agent orchestration; lets any OpenAI-SDK client act as a LunaHub agent. Non-blocking observability layer captures every tool call for eval.

PROJECTS

ChefByte: *agent-native food management with passive inventory via Wi-Fi scales and VLM vision*

- Exposes 28 MCP tools letting AI agents manage inventory end-to-end: meal planning, shopping-list reconciliation, and Walmart cart deep-link checkout.
- Passive Wi-Fi scale inventory: weight-change events trigger updates with no barcode scanning and no user input, removing the friction that kills adoption of conventional food trackers.
- VLM change-detection: weight events trigger image capture; a vision-language model diffs before/after shelf images and reports semantic changes (items added or removed), feeding inventory state without a custom CV model.
- Edge architecture: Raspberry Pi pushes only event decisions to Supabase, never frames; ESP8266 firmware across three scale subsystems. Tuned vision capture pipeline from 0.5 fps / 72% CPU → 10 fps / 36% CPU.

ContinuousRocket: *hierarchical Minecraft agent, active research targeting arXiv/workshop*

- Two-speed cognition: VPT policy body at ~20Hz for reactive control, VLM at ~1Hz for planning, connected via a latent conditioning bridge that steers the body's policy state without discrete action tokens.
- Investigating bridge-training methods for latent conditioning between the VLM planner and VPT body; evaluating behavioral cloning from paired demos versus RL with VLM-derived reward signals.

SKILLS

AI Systems: Agentic architecture, Model Context Protocol (MCP), LangChain, LangGraph, function calling, prompt engineering

Retrieval & Evaluation: RAG & grounded retrieval, vector search (pgvector), LLM evaluation

LLM APIs & Cloud: Anthropic SDK, OpenAI-compatible API surface, Amazon Bedrock, SSE streaming, Cloudflare Workers, Supabase

Engineering: Python, FastAPI, Pydantic, SQL, Docker, Linux

EDUCATION

M.S. Computer Science, Western Governors University (Expected May 2026) • B.S. Computer Science, WGU (Feb 2025)

CERTIFICATIONS

AWS ML Engineer Associate, AWS AI Practitioner, AWS Cloud Practitioner, CompTIA Data+, LPI Linux Essentials

MILITARY & CLEARANCE

U.S. Marine Corps Reserve, Corporal (E-4), Data Systems Administrator (2021 – Present). Active SECRET Clearance.