

CHRISTIAN MACION AI / Agent Engineer — LLM Application Engineer

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SUMMARY

I build production multi-agent LLM systems that turn multi-day expert work into reliable, cost-aware automation — and keep them trustworthy with evaluation harnesses, model-routing cost discipline, and honest validation. I designed one reusable architecture from the ground up (no framework) and shipped it across four systems (quant research, venture incubation, content, knowledge base); I authored the curriculum that teaches others to optimize their own.

In the most intensive engagement, I operated an 11-agent orchestrator-worker research platform with contracted hand-offs, separation-of-duties between generation and validation agents, a 31-gate statistical evaluation harness implemented scipy-free in numpy, a tiered model-routing layer (Opus / Sonnet / Haiku / Fable) with per-dispatch token budgeting, structured-output contracts gated by a mechanical validator, persistent agent memory with provenance governance, and ~76,500 LOC of light-dependency Python supporting it — plus a telemetry dashboard reading LLM session logs and an offline notebook server.

Specialist in the scarce 2026 skills: eval design, agent reliability, and LLM cost modeling. Strong command of multi-agent orchestration (orchestrator-worker / supervisor-worker), tool use / function calling, MCP, Claude Agent SDK / Claude Code, RAG with measured retrieval quality, context engineering, prompt caching, observability, and structured-output validation. Comfortable across Python (numpy, pandas, pyarrow), SQL, AWS S3, Docker, and PDF/PPTX/DOCX generation. I build with large language models; I do not train them.

Before the AI work, a self-directed quant-trading practice (crypto and futures) that gave me the adversarial-validation discipline underpinning every eval gate I write. Available 30 hrs/wk for an AI / agent engineer role.

CORE SKILLS

- Multi-Agent Orchestration (orchestrator-worker / supervisor-worker)
- LLM Evaluation Harness Design (statistical-gate validation)
- Model Routing & Token-Cost Optimization
- Context Engineering
- Structured-Output Contracts & Validation (must exit 0)
- Tool Use / Function Calling
- Hand-off Contracts & Context Isolation
- Model Context Protocol (MCP)
- Claude Agent SDK / Claude Code
- LLM-as-Judge Pipelines
- Adversarial Verification & Refutation
- Regression / Holdout Discipline
- Persistent Agent Memory & Provenance Governance
- Prompt Caching
- RAG / Chunking / Source-Grounded Generation
- Retrieval Scorecards (recall@K, MRR@K)
- Observability & Telemetry Dashboards
- Python (numpy, pandas, pyarrow, boto3)
- SQL
- AWS S3 Data Lakes
- Docker (working)
- JavaScript
- PDF / PPTX / DOCX Generation
- Headless-Chrome Rendering
- AI-Assisted Research & Paper Summarization

- Statistical & Mathematical Modeling (foundational)
- AI Tools (ChatGPT, Gemini, Claude)
- Research Documentation & Communication

EDUCATION

Financial Management Studies (current) — University of Mindanao (UM) (1st Semester, AY 2026–27 (enrolled))

Engineering Studies (units completed) — University of Southeastern Philippines (USEP) (2022 – 2024)

Philippine Science High School (PSHS) — Philippine Science High School System — Southern Mindanao Campus (Graduated 2022)

Certified Technical Analyst Program — Society of Technical Analysts of the Philippines (STA Tier-1) (Dec 2025)

TECHNICAL TOOLS

- Python (numpy / pandas / pyarrow / boto3)
- JavaScript
- SQL
- AWS S3
- Docker (working)
- Google Colab / Jupyter
- Git & GitHub
- Notion
- ChatGPT / Claude / Gemini APIs
- Claude Agent SDK / MCP
- Headless-Chrome Rendering
- Microsoft Excel / Google Sheets

RELEVANT EXPERIENCE

AI Systems Engineer · LLM Research Platform (contract)

03/2026 – 06/2026

19V Capital — Remote

- Architected and operated an 11-agent orchestrator-worker AI research platform (~27,500 words of role-scoped agent charters) with contracted hand-off packets, few-shot routing, separation-of-duties between generation and validation agents, and a scribe-owned single source of truth.
- Designed a 31-gate statistical evaluation harness (block-bootstrap CIs, random-timing nulls, walk-forward, 5-era stability, Deflated Sharpe, CSCV-based PBO, Minimum Backtest Length) implemented scipy-free in numpy — kills false results before they cost anything.
- Built a tiered model-routing policy (Opus = judgment / Sonnet = assembly / Haiku = mechanical / Fable = hardest autonomous) with per-dispatch token budgeting — the cost layer that keeps a multi-agent system (measured at ~15x single-agent token cost) economical to run continuously.

- Engineered structured-output contracts gated by a mechanical validator (must exit 0), persistent file-based agent memory (59 typed, cross-linked Markdown records with provenance governance), and ~76,500 LOC of light-dependency Python including a telemetry dashboard reading LLM session logs.
- Caught and documented 3 of my own false positives in a single session — banking each as enforced methodology — and authored an institutional operating standard and 16 research studies adopted across the desk.

Founder & AI Systems Engineer

2026 – Present

Macion Ventures — Remote

- Built a 7-agent venture-incubation pipeline (5 judgment-tier + 2 mechanical) with 10 lifecycle skills; produced 31 decision-grade artifacts and engineered an anti-self-approval governance pattern (the agent that proposes never approves).
- Encoded Philippine tax/regulatory rules (DTI/SEC/BIR/LGU, ₱3M VAT threshold, 8%-flat vs graduated election) directly into agent and skill prompts.

AI Systems Engineer (Independent)

2026 – Present

Editorial / content automation — Remote

- Built an 8-agent content-production pipeline (topic-scout → researcher → drafter → editor → producer → art-director → chart-maker → exporter) and a 290-line AI-output (slop) evaluator scoring drafts on 13 literature-grounded metrics; drove a real draft from HEAVY (index 81) to CLEAN (index 3).
- Engineered a dependency-free rendering pipeline (HTML/SVG → headless-Chrome PNG; Markdown → publish-ready PDF).

Trading Platform Testing & AI-Workflow Research Analyst (contract)

04/2026 – 06/2026

Arclion AI — Remote

- Conducted structured testing of trading platform onboarding flows to evaluate execution clarity, workflow logic, and system usability from a trader-first perspective.
- Applied AI prompting tools (ChatGPT, Claude, Gemini) to accelerate literature review and pattern recognition while manually verifying accuracy of all outputs.
- Translated execution observations into structured insights to support product and trading workflow optimization.

Independent AI Systems Engineer

01/2025 – 05/2026

Personal Portfolio & Self-Directed Study — Remote

- Designed and shipped multi-agent LLM systems end-to-end: agent charters, eval harnesses, model-routing policy, structured-output contracts, persistent memory, and Python tooling — for content automation, venture incubation, and personal-knowledge workflows.
- Built, audited, and open-sourced a portfolio of runnable AI projects (RAG scorecard, ReAct tool-calling agent with OTel traces, LLM-as-judge validated vs humans, MCP eval server, self-critiquing reflection agent, AI-slop evaluation gate).

Financial Market Educator & AI Integration Specialist (ongoing side)

12/2024 – Ongoing

Independent / Various Universities and Communities — Remote / Davao Region

- Delivered workshops, webinars, and presentations on financial markets, AI applications, and emerging technologies.
- Served as a guest speaker at universities and professional communities on topics involving AI, financial literacy, and blockchain technologies.

ACADEMIC & PERSONAL PROJECTS

- Multi-Agent AI Architecture (Field Guide)** — Curriculum authored from first principles (no framework) covering orchestrator-worker topologies, eval-harness design, model-routing policy, structured-output contracts, persistent agent memory, and cost discipline. Adopted as the teaching reference for a research-desk engagement. *(available on request)*
- AI-Slop Evaluation Gate** — 13-metric literature-grounded evaluator for AI-generated content; deployable Streamlit app, stdlib scoring core. Drove a real draft from HEAVY (index 81) to CLEAN (index 3). *(available on request)*
- RAG Retrieval Scorecard (rag-recall)** — Measured RAG with a retrieval scorecard: recall@3 = 0.886, MRR@3 = 0.805. Supports recall@K / MRR@K evaluation across chunking strategies and vector-store choices. *(available on request)*
- Tool-Calling Agent with Fault Injection** — ReAct tool-calling agent with OTel traces: 100% tool/arg correctness; recovered 6/6 injected faults. *(available on request)*
- LLM-as-Judge Validated vs Humans** — Judge harness validated vs human raters: Cohen's κ = 0.58, 95% bootstrap CI, position-bias measured. *(available on request)*

CERTIFICATIONS

AI, Data Science & Technology:

Introduction to AI Agents — DataCamp, AI Fundamentals — DataCamp, Artificial Intelligence Fundamentals — IBM, AI Fundamentals with IBM SkillsBuild — Cisco, Introduction to AI — Google, AI for the Modern Workforce — Ateneo de Davao University, AI for Business Professionals — HP LIFE, Software Development and Design Thinking — DICT Philippines, Introduction to IT Project Management — University of the Philippines, Data Literacy — DataCamp

Finance, Trading & Economics:

Certified Technical Analyst Program — Society of Technical Analysts of the Philippines (Tier-1), Financial Trading in Python — DataCamp, Math for Finance Professionals — DataCamp, Excel for Financial Planning and Analysis (FP&A) — LinkedIn, Foundations of Growth Equity — Goldman

Sachs, JPMorgan Chase Investment Banking Job Simulation — Forage

Mathematics, Statistics & Programming:

Getting Started with Python for Finance — LinkedIn, Python Essentials 1 — Cisco Networking Academy, SQL for Finance Professionals — LinkedIn, Understanding Data Science — DataCamp

Selected Events, Hackathons & Programs:

Galactic Problem Solver — NASA Space Apps Challenge (Zurich, CH) — Oct 2025, BIDA META AICCELERATE 2025 (5-day intensive) — Meta & Bayan Academy — Dec 2025, UP Data Science Society — Alternative Classroom Learning Experience 2026 — Feb 2026, LimitlessBiz: AIM ASEAN Training Programme — Limitless Lab — Mar 2026, Guest Speaker — USEP CBA Annual Business Expo 2026 — Feb 2026, Sui Builders Program Davao — Sui Foundation — Apr 2026