

SANTAPONG SONDHI

Software, AI & Robotics Engineer

santapongsondhi@gmail.com · resume.draveniq.dev · github.com/santapong · linkedin.com/in/santapong-sondhi-11176034b

SUMMARY

Engineer across software, AI agents and robotics: **harness and meta-harness** systems for AI coding agents (Accretion, Heimdall), production AI/automation for manufacturing, and ROS 2 robotics — with an emphasis on deterministic planning, independent verification and measurable results.

EXPERIENCE

Developer — Platform Support & AI Sandbox2026 – Present

TISCO Information Technology Co., Ltd.

- Developer on the internal platform team supporting the developer platform and its users; lead the **AI-Sandbox** project — an n8n-based automation sandbox — hardening workflows and infrastructure for production stability.

AI & Robotics Software EngineerJun 2025 – Apr 2026

Ennovie Co., Ltd.

- Built an **Advanced Planning & Scheduling** system in Python that schedules 6,000–8,000 daily production orders across 20+ manufacturing cells.
- Designed an operation-level routing engine mapping 45 manufacturing processes to 8 capacity pools with skill-cell assignment and shared-resource balancing.
- Developed per-operation material-readiness planning with multi-source fallback for pre-production (wax, casting, mold); deployed on Microsoft Fabric Notebooks with automated and on-demand runs.
- Delivered a robotics project for jewelry production — bridging AI-driven planning with machines on the factory floor.

Data Engineer InternApr 2024 – Oct 2024

TISCO Information Technology Co., Ltd.

- Built end-to-end ELT pipelines with Dagster and dbt (Staging → Intermediate → Mart) from AWS S3 into Redshift; Apache Superset dashboards on the Mart layer with RBAC/RLS.
- Deployed OAuth2-Proxy in front of the Dagster UI on Nginx; integrated Splunk log forwarding for monitoring and alerting.

Embedded Systems & Automation Builder2023 – 2024

Personal & academic projects

- Pico W drone flight control in Rust (PID/LQG); Raspberry Pi RFID/barcode access system with Flask dashboard; LoRA/QLoRA fine-tuning of Qwen/Llama/Mistral for task-specific assistants.

SELECTED PROJECTS

Accretion — observable meta-harness for AI coding agentsgithub.com/santapong/Accretion

- Provider-neutral control plane supervising Codex and Claude Code: deterministic strategy selection across 5 validated templates (DIRECT / LOOP / GRAPH / HYBRID / safe fallback), verifier-gated bounded feedback loops, isolated Git worktrees per run, durable normalized event trace.
- Independent acceptance — output-contract, Git-diff, trajectory-policy and command verifiers; fail-closed escalation; wall-time/turn/tool-call/iteration ceilings.
- ACR-ARCH** benchmark: 30 frozen tasks, 68 replay scenarios (34/34 Claude/Codex), utility and selector-regret metrics; 10/10 live-calibration artifacts verified. Python 3.12 / FastAPI / PostgreSQL 16 / React; v0.1.0 released Aug 2026, MIT.

Heimdall — composable engineering skills plugin for Claude Code25 skills, v2.4

- Harness-engineering toolkit: 25 skills (design, build, test, ship, operate, incident, research...) each with a failure catalogue, running on a multi-agent Workflow engine with a venture-lifecycle conductor (*loop-build*) and context/state engineering (*loop-context*).

RoboLLM — LLM ↔ robotics workbench (ROS 2)github.com/santapong/RoboLLM

- Webcam hand teleoperation and fist-grip pick-and-place on a Kinova Gen3 (MoveIt, MediaPipe); whole-upper-body humanoid mirroring on ROBOTIS FFW; full-body PAL Talos (32 DOF) mirror using pink QP differential IK with orchestrated verification gates.

Curriculum RAG Chatbot — Best Paper, ICA SP-CON 2025github.com/santapong/capstone-project

- RAG assistant over 200+ pages of curriculum PDFs: LangChain, BGE-m3 embeddings, ChromaDB, Typhoon LLM; migrated to an agentic LangGraph workflow with answer refinement and external search; SQLAlchemy backend and admin document tools.

EDUCATION & AWARDS

B.Eng. Automation Engineering — King Mongkut's Institute of Technology LadkrabangGPA 3.62

Best Paper Award, ICA SP-CON 2025 — "Automation Curriculum Chatbot Using Retrieval-Augmented Generation".

SKILLS

Languages & Backend	TypeScript, Python, Rust, Bash, SQL · FastAPI, Next.js, Node.js, Bun, Flask, PostgreSQL, Prisma
AI / Agents	Harness & meta-harness engineering, MCP, LLM agent pipelines, RAG / LangGraph, LoRA / QLoRA fine-tuning (Qwen, Llama, Mistral)
Robotics & Embedded	ROS 2, MoveIt, URDF, MediaPipe, pink QP IK, PID / LQG control · Raspberry Pi, Pico W, RFID
DevOps & Linux	Docker, n8n, GitHub Actions, Jenkins, Vercel, Microsoft Fabric, Kali Linux