

PIN-HAO CHEN

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Education

National Taiwan University

Sep. 2023 – Jun. 2027 (exp.)

Bachelor of Science, Computer Science and Information Engineering

Taipei, Taiwan

- Cumulative GPA 3.70 / 4.30 (3.85 in 2025–26)
- Selected coursework: Machine Learning (A+), Foundations of Artificial Intelligence (A), Big Data Systems (A+), Bitcoin in the Big Data Era (A+), Introduction to FinTech (A+), Operating Systems (A), Computer Networks (A), Network Administration and System Administration with Lab (A+), Systems Programming (A–)

Research Experience

Evaluation Environments Scored Against the Exact Conditional Law

Feb. 2026 – Present

ABCLab, Dept. of CSIE, NTU · Research Assistant (Advisor: Prof. Shih-Wei Liao)

Taipei, Taiwan

- Undergraduate thesis research; sole student author.
- Built and released a temporal evaluation environment: a small discrete limit-order market with exact rational transition probabilities, in which forecasts are scored against the exactly computed conditional law rather than one sampled outcome, so the metric carries no sampling noise.
- Computed the exact target by Bayesian filtering and exhaustive enumeration in rational arithmetic, checked against two independent solvers and a Monte-Carlo simulator; generated 300,000+ paired natural-language and structured problem instances with an automated line-by-line identity check.
- Trained reference learners to convergence on a five-rung difficulty ladder to measure the accuracy actually attainable at each rung, so a model's shortfall can be traced to a specific step.
- Evaluated open-weight and API models: one closes the gap from many times the announcement-blind baseline down to the measured ceiling at roughly 3,000–9,000 reasoning tokens, which pins down how much test-time compute the task needs.
- Manuscript in preparation for the Foundation Models for Temporal Systems workshop at NeurIPS 2026.

Which LLM Trading Behaviors Transfer: An Embargo-Period, Multi-Seed Study

2025 – 2026

ABCLab, Dept. of CSIE, NTU (Advisor: Prof. Shih-Wei Liao)

Taipei, Taiwan

- Designed an embargo-period protocol (all evaluation data dated after the teacher model's training cut-off) with multi-seed replication and matched-stack, label-shuffle, and threshold-sweep controls, to tell genuine model behavior apart from frontier-API response variance.
- Showed that prompt-level performance differences for an LLM crypto-trading agent are mostly seed noise: none of four paired treatment effects had a 95% confidence interval excluding zero.
- Fine-tuned Qwen3-8B with supervision-only LoRA on pre-embargo frontier-model decisions; one risk behavior, avoiding long exposure on crash days, survived replication and transferred to the small open model.
- Working paper; the design lessons (review before spending compute; no dependence on a model that can be retired) carried into the study above.

Manuscripts

- **Pin-Hao Chen.** “An Evaluation Environment Scored Against the Exact Conditional Law, with a Measured Attainable Ceiling.” *Manuscript in preparation*, 2026; target venue: Foundation Models for Temporal Systems Workshop @ NeurIPS 2026.
- **Pin-Hao Chen.** “Which LLM Trading Behaviors Transfer: Distilling Crash-Avoidance from a Frontier LLM into a Small Open Model.” *Working paper*, 2026.

Experience

Trend Micro (TrendAI)

Jul. 2026 – Aug. 2026

AI Engineer Intern

Taipei, Taiwan

- Co-built ACE (Automated Compliance Engine), an internal tool built on the Claude Agent SDK that drives GitHub, AWS, and Playwright browser automation to collect ISMAP and ISO/IEC 27001 audit evidence.

- Implemented 40 ISMAP and 12 ISO controls end to end, a web dashboard over a REST + WebSocket API, per-run cost monitoring, and multi-model routing between frontier and low-cost models to hold spend down.
- Cut evidence collection for a control set from about 5 working days to under half a day. Internal teams tested it on real ISO evidence and reported edge cases that were then fixed.
- Ran requirement and demo sessions with product managers, engineers, and staff from other departments.

Shanghai Supercomputer Center

Jul. 2025

Testing Intern

Shanghai, China

- Deployed a fully on-premise RAG knowledge base on an NVIDIA A800 80 GB server: DeepSeek-R1-Distill-Qwen-14B served with vLLM, plus Qwen3-Embedding, Docling ingestion, and Open-WebUI, all containerized, with no data leaving the local network.
- Ran functional, performance, and concurrent-load stress tests of the inference service, and wrote the deployment and evaluation report: recommended vLLM over Ollama on throughput, security, and OpenAI-API compatibility, and measured the RAG accuracy gain and the most cost-effective local model and embedder.

NASA — NTU CSIE student system-administration team

Sep. 2024 – Present

Team Leader

Taipei, Taiwan

- Lead the student team that keeps the department's shared Linux workstations running: server operations, user support, and environment maintenance.
- Write Python and shell automation for routine operational tasks.

Selected Projects

- **figureout** (2026) — secondhand price-tracking platform for collectible figures in Taiwan: real transaction data, trend analysis, and a Chrome extension for in-browser reporting. *Next.js, FastAPI, PostgreSQL, Docker.*
- **tao_li** (2026) — delta-neutral funding-rate arbitrage on USDT-M perpetual futures, with carry and near-settlement “snipe” modes and dual-margin monitoring sized to survive $\pm 30\%$ moves on either leg. *Python, asyncio, Binance API.*
- **chao_bi** (2025–26) — parses unstructured Telegram channel messages with a local Ollama model into structured orders for Binance Futures; fully on-device inference. *Python, Ollama.*
- **AI Recommendation Diagnostics** (2026 NTU “Build with AI” Hackathon) — diagnoses why AI assistants recommend a competitor's product, splitting the cause into information gap vs. product gap with a before/after validation loop. *FastAPI, AWS Bedrock.*
- **Mini-shell** (2024) — a Unix-like shell in C supporting pipes, redirection, background jobs, and signal handling.

Technical Skills

Programming: Python, C/C++, Shell script; some TypeScript, Solidity

ML / LLM: LoRA / QLoRA fine-tuning, RAG, vLLM, PyTorch, Hugging Face, Ollama, Claude Agent SDK, evaluation-harness and prompt design

Systems: Linux administration, Docker, AWS, Playwright, Git, GPU / HPC clusters, networking

Languages: Mandarin (native), English (TOEIC 925), Japanese (JLPT N4 equivalent)

Honors & Activities

- **Participant**, “Build with AI” 2026 NTU Hackathon, NTU Ventures — Aug. 2026
- **Administrator**, NTU CSIE Makerspace — Sep. 2025 – Jun. 2026
- **Member**, Information Department, NTU Student Association — Sep. 2025 – present