

Hongyi Tom Chen

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EDUCATION

The Chinese University of Hong Kong, Shenzhen

Sep 2023 – Present

B.S. in Data Science and Big Data Technology

- **GPA:** 3.5/4.0 (Top 25% of the program)
- **Coursework:** Machine Learning, Optimization, Stochastic Processes, Probability & Statistics, Linear Algebra, and Data Structures.
- **Honors:** Dean's List; Second Prize, Zhixing Social Practice Program.

University of California, Berkeley

Aug 2025 – Dec 2025

Visiting Student in Computer Science

- **Coursework:** Introduction to AI, Computer Architecture, and Deep Neural Network.

PROFESSIONAL EXPERIENCE

Cardinal Operations

MLE Intern

Shanghai, China

Jul 2026 – Present

China Merchants Bank

FinTech Intern

Xiamen, Fujian, China

Jul 2025 – Aug 2025

- **Model Development:** Contributed to a BERT-based three-level fraud risk classifier trained on 10k+ multi-source financial texts; optimized fine-tuning, hyperparameters, and the high-risk alert threshold, achieving a 12% relative ACC gain over XGBoost.
- **Interpretability & Deployment:** Aggregated token-level SHAP attributions to identify high-risk semantic patterns; deployed the model to the bank's internal testing environment.

DigitSuper Technology

Data Analyst Intern

Shenzhen, Guangdong, China

Apr 2025 – Jun 2025

- **Feature Analysis:** Analyzed advertising data with Python and SQL to identify conversion drivers, increasing bid win rate by 20%.
- **Strategy Optimization:** Designed A/B tests for real-time bidding, improving ROAS by 10%.

RESEARCH EXPERIENCE

CardioFormer: Sudden Cardiac Death Prediction

Advisor: Prof. Joshua Zhou

Apr 2026 – Present

- **Patient State Modeling:** Encoded discrete, continuous, and temporal EHR data with EHRFormer for dynamic cardiovascular risk prediction.
- **Active & Safe Testing:** Trained IQL on historical trajectories to select the next test or STOP by balancing information gain, cost, and delay; applied clinician constraints, Safety Critic, and STOP Shield to prevent unsafe recommendations and premature stopping.

SkinGPT-X: Medical Large Language Model

Advisor: Prof. Joshua Zhou

Dec 2025 – Apr 2026

- **Evaluation:** Built a medical LLM evaluation framework for diagnostic accuracy and complex-case reasoning.
- **Memory Module:** Benchmarked Qwen3, MedGemma, and HuLuMed, identified failure patterns, and designed a Self-Evolving Memory module.
- **Results:** Improved performance by approximately 8% across multiple metrics and increased robustness on complex cases; submitted to *Nature Medicine* in March 2026 (under review).

Impact of Polysemanticity on Large Language Model Editing

[GitHub Repo](#)

Advisor: Prof. Anant Sahai

Nov 2025 – Dec 2025

- **Experimental Design:** Demonstrated that neuron-level editing with **FiNE** causes greater collateral damage than layer-level editing with **ROME**.
- **Framework:** Built a **Pythia-6.9B** evaluation pipeline using causal tracing and collision analysis to identify polysemantic neurons and compare FiNE with ROME.

PROJECTS

Industry–University Collaboration with COSCO SHIPPING Technology

Project Lead

Jul 2026 – Present

- **HangmaoBao — Commodity Trading Intelligence Platform:** Led a commodity fundamentals platform integrating vessel, port, freight-rate, and arrival data with FastAPI and PostgreSQL; built a LangGraph agent with function calling for NL2SQL analytics, sentiment analysis, and anomaly alerts.
- **Maritime and Port NL2SQL Analytics System:** Built an NL2SQL agent with domain vocabulary, entity normalization, clarification, and validation; integrated AIS, radar, permit, enforcement, port, and S-100 data for automated charts and trend analysis.

Horizon: Personalized AI News Radar (Open Source, 7K+ GitHub Stars)

[GitHub Repo](#)

Open-Source Contributor

Jun 2026

- **Agent Workflow:** Built an asynchronous Python pipeline for multi-source ingestion, deduplication, LLM scoring, summarization, and webhook delivery.
- **Content Selection:** Designed Balanced Digest using LLM scores and category quotas to improve coverage and reduce model calls.

Ranno.ai (Google AI Hackathon)

[GitHub Repo](#)

Core Developer

Oct 2025

- **On-Device AI:** Built an NLU module with Chrome Prompt API (Gemini Nano) to parse user input into structured intents.
- **Route Planning:** Integrated Google Maps, crime, and urban-amenity data into a hybrid route planner built with React and TypeScript.

TECHNICAL SKILLS

Programming & Web	Python, R, SQL, Java, C, JavaScript, HTML/CSS, LaTeX, Git
ML & DA	PyTorch, Scikit-learn, Transformers, Pandas, NumPy, Tableau
Languages	Mandarin (Native), English (TOEFL 109)

LEADERSHIP & ACTIVITIES

Zhixing Social Practice Program

Project Lead

Jun 2024 – Oct 2024

- Cleaned and engineered survey data with Python and Pandas, applying K-Means to identify four user personas.
- Produced findings adopted by The Chinese University of Hong Kong, Shenzhen for student-services strategy.

Rural Revitalization Field Research Program

Co-Lead

Aug 2024

- Led interviews with local officials and residents, applying thematic analysis to identify rural-industry challenges and policy feedback.
- Authored a report adopted by the local government and covered by local media.