

Hongyi Chen

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EDUCATION

2023 - present Undergraduate (**Data Science**) at **CUHK Shenzhen** (Top 20%)

Relevant Coursework: Data Structure, Machine Intelligence and Application, Machine Learning...

Fall 2025 Visiting Student (**Computer Science**) at **UC Berkeley**

Relevant Coursework: Intro to AI, Deep Learning, Machine Structure...

INTERNSHIPS

China Merchant Bank

Xiamen, China

Fintech Intern

Jul - Aug 2025

- **Model Optimization & Quantifiable Results:** Led the hyperparameter optimization and validation for a Chinese anti-financial fraud text model. Successfully boosted AUC-ROC by **12%** to **> 0.95**, mitigating high false-positive rates.
- **AI (XAI) Interpretability:** Independently integrated the TOKEN-level feature contribution analysis.

DigitSuper Technology

Shenzhen, China

Data Analysis Intern

Apr - Jun 2025

- **Scalable Data Analysis:** Leveraged Python and SQL to analyze **10,000+** Amazon advertising data, identifying key trends that informed campaign strategies and improved product BSR by **20%**.
- **A/B Testing & Optimization:** Designed and validated 2×2 factorial A/B tests on real-time bidding strategies. The optimization mandates directly resulted in a **10%** improvement in ROAS.

RESEARCH EXPERIENCE

Impact of Polysemanticity on Model Editing

[Course Project](#)

Undergraduate Research Assistant

Nov - Dec 2025

- **Independently designed and validated** experiments showing that neuron-level editing (**FiNE**) causes more collateral damage than layer-level editing (**ROME**) when targeting polysemantic neurons.
- **Independently developed** a research methodology on **Pythia-6.9B**, using **Causal Tracing** and **Collision Analysis** to systematically locate polysemantic neurons, compare collateral damage, and analyze the precision-robustness trade-off of FiNE vs. ROME.

PROJECTS

Ranno.ai | Google Chrome Built-in AI Hackathon 2025

[GitHub Repo](#)

Full-Stack Developer

Oct 2025

- Architected an on-device AI solution using **Chrome Prompt API (Gemini Nano)** for Natural Language Understanding (NLU), parsing complex user requests into a precise **V2 JSON Intent Schema**.
- Integrated **Google Maps JavaScript API** (Directions, Places, Geometry) with **San Francisco's Crime and Amenities Data APIs** to build a hybrid routing system.
- **BackEnd:** Developed intelligent routing logic to dynamically generate personalized paths.
- **FrontEnd:** Leveraged **React (Vite)** and **TypeScript**, ensuring a responsive and robust user interface.

- Designed a lightweight **GRU network** optimized with **LayerNorm** and **Tanh** activation to process low signal-to-noise financial data, successfully resolving the **"Dying ReLU"** issue and preventing model collapse.
- Addressed **Market Regime Shift** by constructing a balanced training dataset (excluding 2020 liquidity-driven outliers); this strategy prevented overfitting to bullish patterns and significantly improved **generalization** in out-of-sample bear markets.
- Shifted the model checkpointing metric from MSE Loss to **Information Coefficient (IC)** to align with the Top-K ranking strategy. The optimized model **narrowed the annual loss by over 70%** (from -25.4% to -7.4%), achieving a risk profile comparable to the market benchmark.

HONORS & AWARDS

School of Data Science - Dean's List	2023-2024
Zhixing Social Practice Award (Second Prize)	2024-2025

SKILLS

Programming	Python, R, SQL, Java, C, LaTeX, JavaScript, HTML/CSS, Git
Framework	ML/AI (PyTorch, Scikit-learn, Transformers), Data (Pandas, NumPy, Matplotlib, Tableau), Web (React)
Language	Chinese (Native), English (Advanced, TOEFL 109)

LEADERSHIP & EXTRACURRICULAR

Zhixing Social Practice Program	Shenzhen, China
Project Leader	June 2024 - Oct 2024
<ul style="list-style-type: none">· Designed the quantitative survey methodology (500+ surveys) and led data collection; utilized Pandas for complex data preprocessing. Implemented K-Means clustering to segment survey data, uncovering 4 distinct marriage-view archetypes among youth groups.· Delivered the final analytical report, which was adopted by the university administration (CUHK-Shenzhen) to inform future student engagement strategies.	

Rural Revitalization Program	Jiangxi, China
One of the Team Leaders	Aug 2024
<ul style="list-style-type: none">· Organized and led multi-site qualitative interviews with key stakeholders (e.g., local government officials, villagers).· Synthesized findings using Thematic Analysis to deliver a strategic report, which was formally submitted to the local government and featured by local media for its actionable insights.	

Minerva Soccer Team	CUHK-Shenzhen
Team Leader	2023 - present
<ul style="list-style-type: none">· Fostered team cohesion and directed on-field strategy, leading regular training sessions and coordinating team logistics.	