

Xiuyin Li

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Seeking research assistant roles before pursuing a PhD | IELTS: 7.0 (W: 7.0, S: 6.5)

Reliable self-improvement in LLM agents through empirical evaluation, failure analysis, and learning from interaction

Last updated: July 28, 2026



EDUCATION

The University of Hong Kong Master of Data Science **3.51/4.30** Sep 2025 – Dec 2026 (*expected*)

Deep Learning (A+), NLP and Text Analytics (A+), Machine Learning (B+), Data Mining (A-), Statistical Inference (A-), Advanced Statistical Modelling (A-), Programming (A), Time Series Forecasting (B+)

Shandong University B.S. in Statistics **86.52/100** Sep 2021 – Jun 2025

Machine Learning (95), Statistical Computation (99), Bayesian Statistics (96), Mathematical Statistics (92), Multivariate Analysis (91), Python Programming (95), Database Technologies (99), Mathematical Modeling (90)

Minor in Computer Science and Technology **88.86/100** Sep 2022 – Jun 2025

Data Structures (87), Operating Systems (91), Software Engineering (92), Object-Oriented Technology (90)

RESEARCH EXPERIENCE

B.S. Thesis: EM and MCEM for Parameter Estimation in Regression Models May 2025

- Derived and implemented EM/MCEM in R for Student's t regression and linear mixed models, including ECME and REML updates; validated in 200- and 500-replication simulations and against standard R packages.
- Reworked computations to avoid dense matrices for 8,000 UTKFace embeddings and 59,699 CIFAR-10H trials; the t model outperformed a Gaussian baseline in-sample, while the mixed model matched `lme4`.

Synthetic Control Methods for Causal Inference Research Collaboration · Jul–Aug 2024

- Explored synthetic-control applications and extensions with Yunhao Wang and three other undergraduate students through reading and reproduction of R studies spanning design and treatment-effect estimation.

SELECTED PROJECTS

Meeting Agent — Multimodal RAG with Long-Term Memory Project Lead · Apr 2026

- Designed and implemented hierarchical meeting-to-file-to-chunk retrieval using Chroma vector search, SQLite FTS5 lexical retrieval with BM25 scoring, Reciprocal Rank Fusion, and optional semantic reranking.
- Built layered long-term memory with LLM-extracted facts, TTL/importance decay, alias-aware entity relations, and episodic summaries; validated the backend with approximately 1,615 tests across at least 175 files.

Web-Agent — VLM-Driven Browser Agent Project Lead · Nov 2025

- Led the implementation of dual-mode VLM inference via local vLLM or APIs, screenshot-and-DOM-grounded Playwright control, PDF figure extraction, and a lightweight `browser-use` fallback.
- Independently rewrote the system as a typed Python package with swappable planner/tool interfaces and quality-gated OCR; the current package includes at least 50 built-in tools and 186 automated tests.

Zero-Shot CNNs from Textual Descriptions Project Lead · Mar 2026

- Reproduced Ba et al. (ICCV 2015) in PyTorch, implementing fully connected, convolutional, and joint weight predictors from scratch; scripted CUB/Flowers training/evaluation, four result tables, and visualizations.
- Standardized and integrated teammate code across 13 loss, text-encoder, and backbone extensions; trained and evaluated all variants, with multi-granularity CLIP raising CUB unseen-class ROC-AUC from 0.680 to 0.886.

SELECTED AWARDS

Mathematical Contest in Modeling — Honorable Mention Feb 2024

China Undergraduate Mathematical Contest in Modeling — First Prize (Shandong) Sep 2023

SKILLS

Machine Learning & AI: PyTorch, scikit-learn, Transformers, PEFT/LoRA, vLLM, LangChain, Chroma

Programming: Python, R, SQL; C++, Java; JavaScript/TypeScript; NumPy, pandas, SciPy

Tools & Systems: Linux (CLI), Git, CI/CD, Docker, conda, uv, W&B, pytest, L^AT_EX