Lily Chen

Curriculum Vitae

Education

09/24-06/25 **MEng in Electrical Engineering and Computer Science**, *MIT*.
Thesis Advisor: Paul Pu Liang

9/21-06/25 (Expected) **BS in Mathematics, Electrical Engineering and Computer Science**, *MIT*.
GPA: **4.9/5.0**
Selected Coursework: Quantitative Methods for Natural Language Processing (A), Large Language Models and Beyond (A), Project Laboratory in Mathematics (A)

Research Interests

I am interested in principled approaches to Machine Learning, Multimodal Learning, Natural Language Processing, Information Retrieval, and applications to health.

Research Experience

08/24-Present **Multisensory Intelligence Group**, *Researcher*, Cambridge, MA.
- Leading research in multimodal synthesis in multimedia, medicine, and sensor data
- Analyzing the foundational data interactions and principles in multimodal synthesis

05/23-Present **University of Texas at Austin NLP Group**, *Researcher*, Austin, Texas.
- Co-leading project on social media medical claim checking with multi-document RCT abstract retrieval and synthesis. Managing six medical experts for annotation pipeline
- Co-led research on factuality evaluation of plain language summarization of medical evidence to publication. Performed experiments, metrics evaluation, and results analysis

6/22-8/22 **Martin Rinard Lab**, *Researcher*, Cambridge, MA.
- Analyzed mechanistic interpretability of CodeGen models trained on Karel language
- Created tool for attention visualizations to study patterns of Karel rules to state (example)

Publications

Sebastian Joseph*, **Lily Chen***, Jan Trienes, Hannah Louisa Göke, Monika Coers, Wei Xu, Byron C Wallace, Junyi Jessy Li. FACTPICO: Factuality Evaluation for Plain Language Summarization of Medical Evidence. In Proceedings of the Conference of the Association for Computational Linguistics (ACL), 2024.

Workshop Papers

Sarah Zhang*, **Lily Chen***, William Zhang. Analyzing Gender Accuracy and Gender Quality in Multilingual Machine Translation with Large Language Models. Accepted at Widening Natural Language Processing (WiNLP) Workshop at EMNLP, 2023.

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Industry Experience

6/22-8/22 **DRW Holdings, LLC**, *Quantitative Trading Intern*, Chicago, IL.

- Completed quantitative research project of Bayesian Skew Fitter for crypto options
- Researched and implemented proprietary options trading strategies, shadowed desks

1/22-2/22 **Hudson River Trading**, *Crypto Tech Intern*, New York City.

- Built an optimal routing algorithm for pathfinding between crypto liquidity pools
- Researched DeFi technologies, helped build DEX (Decentralized Exchange) aggregator

Selected Awards

2023 GFSD PhD Fellowship – full tuition and $20,000 stipend for 6 years

2024 AAUW Selected Professions Fellowship – $20,000 funding for master's degree

2024 Two Sigma Undergraduate Scholarship – $15,000 funding for bachelor's degree

2022-2024 Live Más Scholarship –$10,000 funding for bachelor's degree

2023 Cognizant Trust & Safety Scholarship –$10,000 funding for bachelor's degree

2023 Raytheon Technologies Scholarship –$10,000 funding for bachelor's degree

2023 ASQ Ellis R Ott Scholarship – $7,500 funding for master's degree

2023 Hedy Lamarr Achievement Award –$7,500 funding for bachelor's degree

2023 Cadence Diversity in Technology Scholarship –$5,000 funding for bachelor's degree

2023 NSPE Auxiliary Legacy Scholarship – $5,000 funding for bachelor's degree

2023 Zonta Women in STEM Scholarship –$5,000 funding for bachelor's degree

2023 Interface Systems Tech for Good Scholarship –$5,000 funding for bachelor's degree

2022 Society of Women Engineers Scholarship –$5,000 funding for bachelor's degree

2022 VMware Achievement Scholarship –$10,000 funding for bachelor's degree

2021 Coca Cola Scholarship – $20,000 funding for bachelor's degree

Activities

09/22-05/23 MIT Society of Women Engineers, Board of Technology.

09/22-05/23 MIT Women in EECS, Mentor.

09/21-12/21 Harvard-MIT Math Tournament, Problem Czar.

Teaching

02/23-05/23 18.062: Mathematics for Computer Science, Teaching Assistant, MIT.

09/22-12/22 6.3950: AI Decision Making and Society, Grader, MIT.

09/22-12/22 18.062: Mathematics for Computer Science, Grader, MIT.

09/22-12/22 18.01: Calculus, Grader, MIT.

Skills

Languages English (fluent), Mandarin Chinese (fluent), Spanish (intermediate)

Programming Python, C, Java, TypeScript, Minispec

Software PyTorch, NumPy, pandas, Hugging Face, seaborn, LaTeX

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