Lily Chen

Research Interests

AI for Science, Multisensory AI, Human-AI Systems, Factuality in AI, and Information Retrieval.

Education

09/24-05/25 (Expected) **MEng in Electrical Engineering and Computer Science**, *MIT*.
Thesis Advisor: Paul Pu Liang

09/21-05/25 (Expected) **BS in Mathematics, Electrical Engineering and Computer Science**, *MIT*.
GPA: **4.9/5.0**

Research Experience

09/24-Present **Multisensory Intelligence Group**, *PI: Paul Pu Liang*.

- Lead for **an unified language for sensors**: signal-processing-theory-inspired language framework for signals from diverse domains. Developing benchmark and sensor foundation model for diverse tasks
- Created demo for sensor physical activity AI assistant for MIT Media Lab Members Week [video]

05/23-Present **University of Texas at Austin NLP Group**, *PIs: Junyi Jessy Li and Byron Wallace*.

- Co-lead for **medical claim checking with multi-document evidence retrieval and synthesis**: benchmark and system to verify medical claims from Reddit with medical evidence from PubMed
- Co-led **factuality evaluation of plain language summarization of medical evidence**: benchmark and automatic evaluation metric for factual correctness of LLMs' summaries of RCT abstracts

05/23-08/23 **Martin Rinard Lab**.

- Led **mechanistic interpretability of CodeGen models trained on the Karel programming language**: study of attention visualization patterns between Karel rules and program state [example]

Publications

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

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

Industry Experience

06/22-08/22 **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 and shadowed desks

01/22-02/22 **Hudson River Trading**, *Crypto Tech Intern*, New York City.

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

Selected Awards

For Doctoral Studies

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

For Master's

2024 AAUW Selected Professions Fellowship – $20,000
2023 ASQ Ellis R Ott Scholarship – $7,500

For Bachelor's

2024 MIT Prize for Open Data – $2,500
2024 Two Sigma Undergraduate Scholarship – $15,000
2023-2024 NSF CRA-WP DREU Program (Mentored by Junyi Jessy Li) – $7,000
2022-2024 Live Más Scholarship – $10,000
2023 Cognizant Trust & Safety Scholarship – $10,000
2023 Raytheon Technologies Scholarship – $10,000 (3 recipients/1000+ applicants)
2023 NAVISITE Next Steminist Scholarship – $10,000
2023 Hedy Lamarr Achievement Award – $7,500
2023 Cadence Diversity in Technology Scholarship – $5,000 (28 recipients/300+ applicants)
2023 Nutanix Advancing Women in Technology Award – $5,000
2023 NSPE Auxiliary Legacy Scholarship – $5,000
2023 Zonta International Women in STEM Scholarship – $5,000
2023 Interface Systems Tech for Good Scholarship – $5,000 (2 recipients/500+ applicants)
2023 ISSAEF Scholarship – $3,500
2023 Prysmian Women in STEM Scholarship – $2,500
2023 SBB Research Group Scholarship – $2,500
2022 Malwarebytes Scholarship – $10,000
2022 FS-ISAC Scholarship – $10,000
2022 SIA Women in Security Forum Scholarship – $10,000
2022 Ridgeline International Scholarship – $5,000
2022 Society of Women Engineers Scholarship – $5,000
2022 VMware Achievement Scholarship – $10,000
2021 Coca Cola Scholarship – $20,000 (150 recipients/99,403 applicants)

Activities

09/22-05/23 MIT Society of Women Engineers Board of Technology member.
09/22-05/23 MIT Women in EECS Mentor.

Academic Service

Spring 2023 Teaching Assistant for Mathematics for Computer Science, MIT.
Spring 2023 MIT PRIMES Circle Mathematics Mentor.
Spring 2023 MIT Math Learning Center Tutor.
Fall 2022 Grader for AI + Society, Mathematics for Computer Science, and Calculus, MIT.

Skills

Languages English (fluent), Mandarin Chinese (advanced), Spanish (intermediate)
Programming Python, C, Java
Software PyTorch, NumPy, pandas, Hugging Face, seaborn, LaTeX