Lily Chen

Research Interests

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

Education

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

09/21-06/25 (Expected) **BS in Mathematics, Electrical Engineering and Computer Science**, *MIT*.
GPA: **4.9/5.0**

Research Experience

08/24-Present **Multisensory Intelligence Group**, *PI: Paul Pu Liang*.
- Grounding large language models with sensor modalities, mentoring one undergraduate researcher
- Led demo creation for sensor physical activity AI assistant for MIT Media Lab Members Week [video]
- Collected real-time Inertial measurement unit (IMU) data for six physical activities from smartwatch

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**
  - Working with six medical experts on annotation pipeline design and refinement
  - Designed and evaluated various retrieval strategies with state-of-the-art open-sourced embedding models to obtain top-10 relevant randomized controlled trial abstracts from PubMed for each claim
- Co-led **factuality evaluation of plain language summarization of medical evidence**
  - Published at ACL 2024, presented as a poster
  - Created a set of plain language summaries from LLMs, analyzed the results of traditional and LLM-based factual consistency metrics and studied the correlations against expert evaluations

06/22-08/22 **Martin Rinard Lab**.
- 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

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, 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, 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	Two Sigma Undergraduate Scholarship – $15,000
2023-2024	NSF CRA-WP DREU Program –$7,000
2022-2024	Live Más Scholarship –$10,000
2023	Cognizant Trust & Safety Scholarship –$10,000
2023	Raytheon Technologies Scholarship –$10,000
2023	NAVISITE Next Steminist Scholarship – $10,000
2023	Hedy Lamarr Achievement Award –$7,500
2023	Cadence Diversity in Technology Scholarship –$5,000
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
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

Activities

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

Academic Service

Spring 2023	18.062: Mathematics for Computer Science, Teaching Assistant, MIT.
Spring 2023	MIT PRIMES Circle Mathematics Mentor.
Fall 2022	Grader for AI + Society, Mathematics for Computer Science, and Calculus, MIT.

Skills

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