Lily Chen

Research Interests

Machine Learning, Multimodal Intelligence, Natural Language Processing, and Information Retrieval.

Education

09/24-06/25 (Expected) **MEng in Electrical Engineering and Computer Science**, *MIT*.
Thesis Topic: Multimodal Synthesis and Creation, Gesture Understanding, Grounded LLMs
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, Project Laboratory in Mathematics

Research Experience

08/24-Present **Multisensory Intelligence Group**, *PI: Paul Pu Liang*.
- Creating benchmark for multimodal synthesis and content creation of music videos
- Building benchmark of mime performance videos for emotion analysis from gesture
- Grounding LLMs in the physical world by connecting them to sensor data representations

05/23-Present **University of Texas at Austin NLP Group**, *PIs: Junyi Jessy Li and Byron Wallace*.
- Co-lead for project on social media medical claim checking with multi-document RCT abstract retrieval and synthesis. Working with six medical experts on annotation pipeline
- Published research on factuality evaluation of plain language summarization of medical evidence at ACL 2024. Performed experiments, metrics evaluation, and results analysis

6/22-8/22 **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

Conference

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]

Workshop

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]

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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

For PhD

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
2022-2024 Live Más Scholarship –$10,000
2023 Cognizant Trust & Safety Scholarship –$10,000
2023 Raytheon Technologies 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
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.

Teaching

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