Research Interests

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

Education

09/24-05/25 MEng in Electrical Engineering and Computer Science, MIT.

(Expected) Thesis Advisor: Paul Pu Liang

09/21-05/25 BS in Mathematics, Electrical Engineering and Computer Science, MIT.

(Expected) GPA: **4.9/5.0**

Research Experience

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

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

05/23-Present University of Texas at Austin NLP Group, Pls: 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.
- 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.
- 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