## Research Interests

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

### Education

09/24-06/25 MEng in Electrical Engineering and Computer Science, MIT.

(Expected) Thesis Advisor: Paul Pu Liang

09/21-06/25 BS in Mathematics, Electrical Engineering and Computer Science, MIT.

(Expected) GPA: 4.9/5.0

# Research Experience

08/24-Present Multisensory Intelligence Group, Pl. Paul Pu Liang.

- o 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]
- o Collected real-time Inertial measurement unit (IMU) data for six physical activities from smartwatch

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
  - 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 the Karel programming 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 (advanced), Spanish (intermediate)
- Programming Python, C, Java
  - Software PyTorch, NumPy, pandas, Hugging Face, seaborn, LATEX