

## Research Interests

Machine Learning, Natural Language Processing, Artificial Intelligence, Information Retrieval.

## Education

- 09/24-06/25 **MEng in Electrical Engineering and Computer Science, MIT.**  
(Expected) Thesis Topic: Grounded large language models in the physical world with sensors  
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, 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 Jessie Li and Byron Wallace.**
- Co-lead for **social media medical claim checking with multi-document RCT abstract retrieval**
    - 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 retrieve top-10 relevant randomized controlled trial (RCT) abstracts from PubMed
  - 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 Jessie 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

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## 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 Stemminist 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

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## Activities

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

09/22-05/23 MIT Women in EECS, Mentor.

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## 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.

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## Skills

Languages English (fluent), Mandarin Chinese (fluent), Spanish (intermediate)

Programming Python, C, Java

Software PyTorch, NumPy, pandas, Hugging Face, seaborn, L<sup>A</sup>T<sub>E</sub>X