Zilin Ma | Curriculum Vitae

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Education

Harvard University — **Cambridge, MA**
Ph.D. Candidate in Computer Science — *2019 – 2025*
School of Engineering and Applied Sciences (SEAS)
Advisor: **Prof. Krzysztof Gajos**

Bucknell University — **Lewisburg, PA**
B.Sc. in Computer Science, B.A. in Physics (Magna Cum Laude) — *2015 – 2019*

Experience

Researcher
Frontline Associates — *Jan 2023 - Present*

- Conducted a formative study with 30+ humanitarian and crisis negotiators to identify challenges in using ChatGPT for document summarization and knowledge sharing, resulting in a first-author publication presented at ICML Next Generation of AI Safety Workshop 2024.
- Designed and implemented an LLM-based interface that enhanced efficiency in humanitarian negotiation workflows. Comparative studies demonstrated an improvement in facilitator efficiency over ChatGPT, addressing key concerns such as risk assessments and alternative solution generation. Results published at CHIWORK 2025.
- Organized and led AI-focused workshops on frontline negotiation, the first of their kind. These workshops engaged over 100 global negotiators and were adopted by organizations including ICRC, UN, BMZ, and MSF, facilitating the integration of research insights into practical applications.
- Organized the first Harvard Negotiation Challenge with over 100 global negotiators simulating using LLM chatbots for negotiation.

CTO & Founding Engineer
Sumeria Labs — *May 2022 - May 2023*

- Spearheaded the design and development of an NFT lending protocol, collaborating with the CEO to optimize user experience.
- Directed a comprehensive security audit with CertiK, successfully mitigating all identified vulnerabilities and ensuring the protocol met top-tier security standards.
- Integrated traditional banking models into Web3, enabling secure and permissionless NFT loan origination, thereby bridging conventional finance with decentralized platforms.
- Automated collateral liquidation processes on AWS, enhancing protocol efficiency and ensuring robust security during defaults or market fluctuations.

Research Intern, HCI Group
Stanford University — *May 2018 - Jan 2019*

- Assessed the effectiveness of **HabitLab** by analyzing user behavioral data, culminating in a publication presented at CHI 2019.
- Engineered behavioral coaching mechanisms utilizing neural networks and multi-armed bandit algorithms.
- Conducted A/B tests to evaluate intervention strategies, leading to data-driven enhancements in HabitLab's approach to user engagement and productivity.

Research Intern, Imaging Science and Innovation
Geisinger Health System — *May 2016 - May 2017*

- Developed a convolutional neural network (CNN) using TensorFlow to automatically segment heart substructures in Cardiac Magnetic Resonance images, achieving a 97% Dice coefficient on a dataset of 50 patients, demonstrating compatibility with manual segmentation.
- Created interactive data visualizations to effectively communicate research findings to the public and stakeholders, enhancing transparency and understanding of advanced medical imaging techniques.

Publications

[1] **Ma, Zilin**, Yiyang Mei, Claude Bruderlein, Krzysztof Z. Gajos, and Weiwei Pan. "chatgpt, don't tell me what to do": Designing ai for context analysis in humanitarian frontline negotiations. In *Proceedings of the 4th Symposium on Human-Computer Interaction for Work (CHIWORK)*, page to appear, Amsterdam, The Netherlands, 2025. ACM. URL https://arxiv.org/abs/2410.09139.

[2] **Zilin Ma**, Susannah Cheng Su, Nathan Zhao, Linn Bieske, Blake Bullwinkel, Jinglun Gao, Gekai Liao, Siyao Li, Ziqing Luo, Boxiang Wang, Zihan Wen, Yanrui Yang, Yanyi Zhang, Claude Bruderlein, and Weiwei Pan. Using Large Language Models for Humanitarian Frontline Negotiation: Opportunities and Considerations. In *ICML 2024 Next Generation of AI Safety Workshop*, 2024. URL https://openreview.net/forum?id=ekHAMI97qf.

[3] **Ma, Zilin**, Yiyang Mei, Krzysztof Z. Gajos, and Ian Arawjo. Schrödinger's Update: User Perceptions of Uncertainties in Proprietary Large Language Model Updates. In *Proceedings of the CHI Conference on Human Factors in Computing Systems*, CHI EA '24, Honolulu, HI, USA, may 2024. ACM. ISBN 979-8-4007-0331-7. doi: 10.1145/3613905.3651100. Extended Abstracts.

[4] Yinru Long, Zilin Ma, Yiyang Mei, and Zhaoyuan Su. AffirmativeAI: Towards LGBTQ+ Friendly Audit Frameworks for Large Language Models. In *Workshop on Human-Centered Evaluation and Auditing of Language Models (HEAL) at CHI 2024*. ACM, 2024. URL https://arxiv.org/abs/2405.04652.

[5] **Ma, Zilin**, Yiyang Mei, Yinru Long, Zhaoyuan Su, and Krzysztof Z. Gajos. Evaluating the Experience of LGBTQ+ People Using Large Language Model Based Chatbots for Mental Health Support. In *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems*, pages 1–12, 2024.

[6] **Ma, Zilin**, Yiyang Mei, and Zhaoyuan Su. Understanding the Benefits and Challenges of Using Large Language Model-Based Conversational Agents for Mental Well-being Support. In *AMIA Annual Symposium Proceedings*, volume 2023, page 1105. American Medical Informatics Association, 2023.

[7] **Ma, Zilin** and Krzysztof Z. Gajos. Not Just a Preference: Reducing Biased Decision-Making on Dating Websites. In *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems*, pages 1–14, 2022.

[8] Gokhan Egri, Xinran Han, **Ma, Zilin**, Priyanka Surapaneni, and Sunandan Chakraborty. Detecting Hotspots of Human-Wildlife Conflicts in India Using News Articles and Aerial Images. In *ACM SIGCAS/SIGCHI Conference on Computing and Sustainable Societies (COMPASS)*, pages 375–385, 2022.

[9] Tianhao Wang, Zana Buçinca, and **Ma, Zilin**. Learning Interpretable Fair Representations. Technical report, Technical report, Harvard University, 2021.

[10] Gokhan Egri, Xinran Han, **Ma, Zilin**, and Sunandan Chakraborty. Classifying and Analysing Human–Wildlife Conflicts in India Using News Articles. *EasyChair Preprint*, (5898), 2021.

[11] Geza Kovacs, Drew Mylander Gregory, **Ma, Zilin**, Zhengxuan Wu, Golrokh Emami, Jacob Ray, and Michael S. Bernstein. Conservation of Procrastination: Do Productivity Interventions Save Time or Just Redistribute It? In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*, pages 1–12, 2019.

[12] John Angileri, Matt Brown, Joseph DiPalma, **Ma, Zilin**, and Christopher L. Dancy. Ethical Considerations of Facial Classification: Reducing Racial Bias in AI. *Retrieved February*, 21:2020, 2019.

[13] Joshua V Stough, Joseph DiPalma, **Ma, Zilin**, Brandon K Fornwalt, and Christopher M. Haggerty. Ventricular Segmentation and Quantitative Assessment in Cardiac MR Using Convolutional Neural Networks. In *Medical Imaging 2018: Biomedical Applications in Molecular, Structural, and Functional Imaging*, volume 10578, pages 521–527. SPIE, 2018.

Awards

2023: AMIA Best Student Paper Finalist (Top 8)

2022: UniSwap Grants Program

2019: Computer Science Arts & Sciences Outstanding Student Award

2019: Phi Beta Kappa Honor Society

2018 – 2019: Sigma Pi Sigma Physics Honor Society

2017: Program for Undergraduate Research at Bucknell

2016 – 2019: Dean's List

2017 – 2018: Residential Education Academic Excellence Award

Teaching Experience

Harvard University

2023 – Present: **Teaching Fellow** for Data Science Capstone.

2020: **Teaching Fellow** for Data Visualization. **Course Designer** for Intro to NLP with PyTorch.

Bucknell University

2018: **Teaching Assistant** for Algorithms and Data Structures. Graded students' homework and organized help sessions.

2017 – 2018: **Teaching Assistant** for Classical Mechanics Lab. Assisted students with numerical techniques in classical mechanics using Python and Mathematica.

2016 – 2017: **Teaching Assistant & Study Group Leader** for Classical and Modern Physics I & II. Graded homework, organized study groups, and help sessions.

2016 – 2017: **Teaching Assistant** for Engineering 100. Organized lab sessions and prepared hardware materials in Computer Science Engineering seminars.

2016: **Teaching Assistant** for Introduction to Computer Science I. Organized help sessions and graded homework.

Conference and Journal Reviewer

ACM CHI: 2024*, 2025

ACM CHI LBW: 2024

ACM CSCW: 2024*, 2025

ACM CSCW Posters: 2024

ACM DIS: 2025

ACM IUI: 2024*

ACM CUI Posters: 2024

ACM UIST: 2024

* *Special recognition for outstanding reviews* received.

Invited Talks

March 9, 2025: Programs On Negotiation, AI Negotiation Summit, **ChatGPT, Don't Tell Me What to Do:** Designing AI for context analysis in humanitarian frontline negotiations

March 7, 2025: Harvard Global AI in Negotiation Challenge, **ChatGPT, Don't Tell Me What to Do:** Designing AI for context analysis in humanitarian frontline negotiations

Sep 11th, 2024: AI in Humanitarian and Crisis Negotiation Workshop, **Confidentiality and Privacy in Using ChatGPT for Humanitarian Frontline Negotiations**

Oct 31st, 2024: Panelist, Carnegie Mellon University **Queer(ing) Generative AI for a Queer Visibility Summit**

Leadership & Activities

Jun 2018 - May 2019: **President & Treasurer**, Human Centered Design Club, Bucknell University

Aug 2016 - May 2018: **LGBTQ+ Housing Residential Advisor**, Residential Education, Bucknell University