

Vivienne Bihe Chi

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[LinkedIn](#)

[Research Portfolio](#)

- Education**
- Brown University** Providence, RI
Ph.D. in Cognitive Science 2019 – (expected) 2024
Thesis topic: Determinants of Human-Robot Trust during Interactive Norm Teaching
Committee: Bertram F. Malle, Daphna Buchsbaum, Ellie Pavlick
M.S. in Cognitive Science 2022
Master's Thesis: Social Norm Network Activation Pattern in Visual Scene Processing
Committee: Bertram Malle, Ellie Pavlick, William Warren
- University of Michigan** Ann Arbor, MI
B.S. in Cognitive Science, Computer Science 2015 – 2019
Minors in Linguistics, German studies
Undergraduate research experiences: Natural Language Processing– Topic Modeling, advisor: James Ostler; Cognitive Modeling– SOAR, advisor: John E. Laird
- Publications**
- Chi, V. B., Mehrotra, S., Teruhisa, M., Kumar, A. (2024). [Should I Help a Delivery Robot? Cultivating Prosocial Norms through Observations](#). *ACM Conference on Human Factors in Computing Systems (CHI'24)*
- Chi, V. B., Ulwelling, E., Salubre, K., Mehrotra, S., Teruhisa, M., Kumar, A. (2024 in print) More than just a Tool: People's Perception and Acceptance of Prosocial Delivery Robots as Fellow Road Users. *In Proceedings of Workshop on Robo-Identity: Designing for Identity in the Shared World (HRI '24)*.
- Chi, V. B. & Malle, B. F. (2024). [Interactive Human-Robot Teaching Recovers and Builds Trust, Even With Imperfect Learners](#). *ACM/IEEE International Conference on Human-Robot Interaction (HRI)* [24.9% acceptance rate, oral presentation]
- Chi, V. B. & Malle, B. F. (2023). [Calibrated Human-Robot Teaching: What People Do When Teaching Norms to Robots](#). *32nd IEEE International Conference on Robot and Human Interactive Communication (RO-MAN)* [oral presentation]
- Malle, B. F., Rosen, E., Chi, V. B.*, Ramesh, D. (2023). [What Properties of Norms can we Implement in Robots?](#) *32nd IEEE International Conference on Robot and Human Interactive Communication (RO-MAN)*
- Chi, V. B. & Malle, B. F. (2023). [People Dynamically Update Trust When Interactively Teaching Robots](#). *ACM/IEEE International Conference on Human-Robot Interaction (HRI)* [25.2% acceptance rate, oral presentation]
- Malle, B. F., Chi, V. B., Rebola, C. B. (2023). [Older Adults' Understanding of Signals Communicated by Robot Companions for Caregiving](#). *Innovation in Aging, Volume 7, Issue Supplement_1, December 2023*
- Malle, B. F., Rosen, E., Chi, V. B.*, Ramesh, D. (2023). [Robots Capable of Norm-Appropriate Action \(not Moral Agency\)](#). *ACM/IEEE International Conference on Human-Robot Interaction (HRI) Workshop "Perspectives on Moral Agency in Human-Robot Interaction."*

Chi, V. B., Hsu, S. H., Chou, Y. C., Lou, W. C. (2023). Machine Learning for Early-Onset Dementia Prediction Based on Financial Capabilities: A Comparative Analysis. *Grupos vulnerables: inclusión, exclusión y desafíos (Vulnerable groups: inclusion, exclusion and challenges)*. (book chapter in print)

Chi, V. B. & Malle, B. F. (2023). When People Teach a Robot, They Systematically Choose Their Strategies Based on Observed Learning Evidence and Emerging Trust Feelings. *International Convention of Psychological Science (ICPS)*

Chi, V. B. & Malle, B. F. (2022). [Instruct or Evaluate: How People Choose to Teach Norms to Social Robots](#). *ACM/IEEE International Conference on Human-Robot Interaction(HRI)*

Rosen, E., Hsiung, E., Chi, V. B.*, Malle, B. F. (2022). [Norm Learning with Reward Models from Instructive and Evaluative Feedback](#). *31st IEEE International Conference on Robot and Human Interactive Communication (RO-MAN)*, 2022, pp. 1634-1640

Hsiung, E., Rosen, E., Chi, V. B.*, Malle, B. F. (2022). [Learning Reward Functions from a Combination of Demonstration and Evaluative Feedback](#). *ACM/IEEE International Conference on Human-Robot Interaction(HRI)*

Malle, B. F., Austerweil, J. L., Chi, V. B.*, Kenett, Y., Beck, E. D, Thapa, S., Allaham, M. (2021). [Cognitive Properties of Norm Representations](#). *Proceedings of the Annual Meeting of the Cognitive Science Society*

Malle, B. F., Rosen, E., Chi, V. B.*, Berg, M., Haas, P. (2020). [A General Methodology for Teaching Norms to Social Robots](#). *29th IEEE International Conference on Robot and Human Interactive Communication (RO-MAN)*

Working Manuscripts

Chi, V. B., Ulwelling, E., Salubre, K., Mehrotra, S., Teruhisa, M., Kumar, A. (*In Prep*) Fostering Prosociality in Mixed Traffic: A Framework for Observational Learning within Smart Urban Mobility

Phillips E., Malle, B.F., Rosero A., Kim M.J., Kim. B., Melles L., Chi, V. B. (*Under Review*) Systematic methods for Moral HRI: A framework and testbeds for studying responses to robot norm conflict

Chi, V. B. & Malle, B. F. (*In Prep*) Towards a Model of Social Norm Activation

Chi, V. B. (*In Prep*) Teaching Norms to Humans and Robots– a Literature Review

Additional Projects

Human Users' Trust Development for the Spot Robot 2022 – Present

PI: Stefanie Tellex, Bertram Malle (Brown University)

Designed and conducted Human-Robot Interaction experiment with the Boston Dynamics Spot Robot to investigate the impact of teaching engagement on the development of human trust for the robot.

Moral Justifications to Foster Human-Machine Trust 2021 – Present

PI: Elizabeth K Phillips (George Mason University)

Designed and conducted human-subjects research on autonomous agent moral dilemmas and the use of justifications to mitigate moral disapproval and repair lost trust.

Talks

(scheduled May 2024) Morality Lab at Boston College, Chestnut Hill, MA

(scheduled April 2024) Social-Cognitive Seminar Series at Brown University, Providence, RI

(March 2024) 3rd Workshop on Human-Interactive Robot Learning (HIRL), Boulder, CO

(November 2023) The Gerontological Society of America Annual Scientific Meeting, Tampa, Florida

(June, 2023) First Multidisciplinary Seminar on Social Sciences with Emphasis on Vulnerability and Vulnerable Groups, Universidad de las Américas Puebla, online presentation

(March 2023) International Convention of Psychological Science, Brussels, Belgium

(October 2022) Measuring Belief Systems Workshop, Princeton University, Princeton, New Jersey

(August 2022) 22nd meeting of the European Society for Cognitive Psychology, Lille, France

(May 2021) Association for Psychological Science Virtual Convention, Virtual

Skills

Programming

Python, R, SPSS, Matlab, JavaScript, HTML, C++

Methodologies

Statistical Data Analysis, Machine Learning, Natural Language Processing, Thematic Text Analysis, User Modeling, Data visualization

Survey Research, Experiment Design, Usability Testing, User Interviews, Focus Groups, Prototyping (Balsamiq, Figma), Eyetracking, Psychometrics

Languages

English, Mandarin, German (intermediate)

Peer Review

Reviewer for IEEE International Conference on Robot and Human Interactive Communication x2 2024

Reviewer for ACM Transactions on Human-Robot Interaction x2 2024

Reviewer for ACM/IEEE International Conference on Human-Robot Interaction x2 2023

Reviewer for IEEE International Conference on Robot and Human Interactive Communication 2023

Reviewer for AAAI Fall Symposium on Artificial Intelligence for Human-Robot Interaction 2022

Service & Outreach

Dept. Social Cognitive Seminar Series, Co-Organizer 2020-2022

Dept. Diversity & Inclusion Action Plan, Elected Student Representative 2022

Dept. Diversity and Inclusion Action Plan, outreach committee member 2020-2022

Dept. Social Events Planning, Co-Organizer 2019-2020

Michigan China Forum, President 2017-2019

Peer Information Counselor at the University of Michigan Library 2017-2019

Cognitive Science Community at the University of Michigan, President 2016-2019

Girls in Electrical Engineering and Computer Science , Professional Committee member 2016-2018

Honors & Scholarships

Betty R.H. and James M. Pickett Fellowship (Brown University) 2020

IEEE-HKN Beta-Epsilon chapter 2018

Conference Travel Award (Weinberg Institute for Cognitive Science) 2018

International Institute Fellowship (University of Michigan) 2017

Weiss-Partin Scholarship (University of Michigan) 2017

Brown Scholarship (University of Michigan Residential College) 2017

University Honors (University of Michigan) 2015-2018

Teaching

CLPS 0950 Intro to Programming Spring 2023

Faculty mentor: Dr. Thomas Serre

Independent instructor of record. Delivered 3 hours of lecture every week. Taught the course while supervising an undergraduate team of teaching assistants.

CLPS 2980 Foundations of Advanced Statistics Spring 2022

Supervisor: Dr. Bertram Malle

Prepared R Tutorials. Taught weekly sections to PhD students.

CLPS 0220 Making Decisions

Spring 2021

Supervisor: Dr. Steven Sloman

Taught weekly sections. Delivered a solo guest lecture on Morality and Happiness.

CLPS 0900: Statistical Methods

Fall 2020

Supervisor: Dr. Stephanie Costa

Led an undergraduate TA team.