

Xin YE

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EDUCATION

University of Michigan, Ann Arbor, MI

Aug. 2021 - Apr. 2023

Master of Science in Information

GPA 4.0 /4.0

- Advisor: Dr. Lionel P. Robert

Zhejiang University, Hangzhou, China

Sep. 2017 - Jun. 2021

Bachelor of Science in Psychology, Graduate with honors; Minor in Finance

GPA 3.75 /4.0

- Thesis: “The effect of emotion on visual working memory capacity and resolution” (Advisor: Dr. Zaifeng Gao)

FIELDS OF INTEREST

Autonomous Vehicles, Driver Behavior and Safety, Human-Robot interaction, Machine Learning, Computational Modeling of Human Behaviors, Trust in Automation, Interfaces Design, Accessibility, Cognitive Psychology

PEER-REVIEWED PUBLICATIONS

Ye, X. and Robert, L. P. (Under Review). Xin Ye and Lionel P. Robert. 2023. A Literature Review of Security Robot in Human Robot Interaction. *ACM Trans. Hum.-Robot Interact.*

Ye, X., Zhu, A., Liu, T., Wu, J., He, Y., Zhou, M., Pan, H., & Gao, Z. (2020). “Common human factors methods in infectious disease prevention and control”. In: *Psychological Response to Public Health Emergencies: A Handbook of Self-Care and Psychological Growth*. Ed. by Zhejiang University Department of Psychology and Behavioral Sciences. 2020, pp. 251-263. (in Chinese). Link:<https://a.co/d/7o1Hble>

WORKING PAPER

Ye, X., Liang, J. and Gao, Z. Arousal-Biased Competition in Visual Perception and Working Memory: A Unique Examination with a Continuous Recall Task. (For Emotion Journal)

Kim, S., Esterwood, C., **Ye, X.** and Robert, L. P. A Review on Morphological View of Affective Responses to Robot.

PRESENTATIONS

Ye, X., Rahmy, S., Zhang, N., Lee, J., Chhabria, H. (2022). DEVIATE: The Unglamorous Foundations of Machine Learning. Poster presented at University of Michigan, the College of Engineering Design Expo. Dec 2022.

Ye, X. (2020). The Manipulation of Pedestrian-Automated Vehicle Interaction : A Scoping Review of Experimental Methods. Poster and video presented at the *NC State GEARS Program Summer Research Presentation*. August 2020. Video link: <https://www.youtube.com/watch?v=hVIIIzhHUrU>

Ye, X. (2020). Auditory Messages for Intersection Movement Assist Systems: Effects of Self-prioritization. Poster presented at the Zhejiang University Student Research Training Program Symposium. Sep 2020.

RESEARCH EXPERIENCE

Research Assistant, University of Michigan, Ann Arbor, School of Information, MI

Jan. 2022 - Present

A Comparative Study on the Influence of Anthropomorphism on Human–Security Robot Interaction

- Conducted a systematic literature review in the field of human-security robot interaction, Screened 1417 papers by Ryan and identified 22 studies, summarized thrust areas and findings, submitted a review paper to *CHI' 23*.
- Started empirical research examining the effects of anthropomorphism and sceneries on human-robot interaction.

Review and Critique of Morphological Induced Anthropomorphism to Promote Affectivity

- Conducted a literature review exploring how robots' morphological attributes affect anthropomorphism and social and affective responses of humans. Coded 41 papers and explored a generalized structure of anthropomorphism.

Data Analyst, Multidisciplinary Design Program, University of Michigan, College of Engineering

Jan. 2022 - Jan. 2023

Data Elements from Video using Impartial Algorithm Tools for Extraction

- Explored ML algorithms to predict passengers' motion sickness based on video; compared human labeling performance; applied cognition principles to algorithm development; coded MATLAB for Fleiss Kappa Analysis.

Research Assistant, Zhejiang University, Hangzhou, China

Jun. 2019 - Aug. 2021

The effect of emotion on visual working memory

- Designed lab experiments and programmed MATLAB experiment code to examine the effect of emotion valence and arousal on visual working memory quality and capacity; Collected behavioral data(response time) in the lab.
- Modeling the data by maximum likelihood estimates and MCMC methods, programmed MARLAB and R code to analysis results in three working memory models. Analyzed the data using repeated-measure ANOVA by JASP.
- First explored and contributed to the 0-180 data analysis in R, *wrote a handbook* for future users.

Auditory Messages for Intersection Movement Assist Systems: Effects of Self-prioritization

- Designed experiments and programmed driving simulator using UNITY to examine the effect of auditory warning messages on driving behavior in automated vehicles.
- Developed surveys and collected driving behavioral (e.g., driving speed and eye-tracking) and subjective data (e.g., utility, preference). Analyze the data using SPSS software. Completed and Presented the poster with team.

System Security and Intelligent Protection of Human-Machine Integration; Correction and Prevention in High-risk Traffic Behavior: Warnings

- Systematically screened papers on multi-modal and different warning messages in correcting high-risk traffic behaviors; Assisted in writing two white papers for the formation of Chinese Automobile Interaction Standards;

Summer research student, North Carolina State University, NC

Jun. 2020 - Aug. 2020

Pedestrian-Vehicle Communication Displays in the Context of Autonomous Driving: A Scoping Review; The Manipulation of Pedestrian-Automated Vehicle Interaction : A Scoping Review of Experimental Methods

- Screened literatures on pedestrian-vehicle interaction; completed the poster and achievement exhibition

Undergraduate research student, Zhejiang University, Hangzhou, China

Sep. 2018 - Jun. 2019

Active Suppression Mechanism of Attention Information based on Dual Task Paradigm

- Designed lab experiments and programmed MATLAB code to discover the destruction of the inhibition mechanism based on dual-task paradigm, first explored the cognition mechanism behind the active suppression phenomenon

TEACHING AND WORKING EXPERIENCE

Graduate Student Instructor, University of Michigan

Aug. 2022 - Apr. 2023 (excepted)

- Taught SI370 Data Exploration, SI618 Data Manipulation&Analysis, Machine Learning, Natural language Processing
- Taught guest lectures, hold Office hours, graded and mentored homework and projects, weekly meetings with Prof.

User Experience Research Intern, NetEase Game, Thunder Fire UX Center

Mar. 2021 - July. 2021

- Analyzed and processed daily user game data, conducted data analysis of players' behavioral characteristics in the game and provided decision support, assisted with game user interviews, function usability test, and focus groups.

SKILLS

- **Quantitative research:** Experimental Design, Statistic Modeling Analysis, Questionnaires and Surveys Development
- **Qualitative research:** Usability Test, User Interview, Affinity Diagrams, Contextual Inquiry
- **Programming:** Python, R, SQL, SPSS, Matlab, Shell, Git, Unity, HTML/CSS
- **Library:** NumPy, Pandas, Matplotlib, Sklearn, SciPy, Pytorch, Django, Psychtoolbox
- **Others:** Tobii Glasses, EEG data analysis, Usability test, Psychometrics (Exploratory/Confirmatory Factor Analysis)

HONORS & AWARDS & SERVICES

- UMSI MTOP Research Grant, \$1500 Oct. 2022
- Outstanding Graduates of Zhejiang University Jun. 2021
- Zhejiang University Excellent Student fellowship 2019-2020, ¥ 2000 Oct. 2020
- Zhejiang Province student Innovation Research Grant, ¥ 3000 Oct. 2020
- Zhejiang University Student Travel Organization Chair Mar. 2019 - Sep. 2019
- International Volunteer to Siri Lanka Jul. 2018 - Aug. 2018
- 3rd Prize in the Mathematics Competition of Chinese College Student Oct. 2017