Qiaoning (Carol) Zhang

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SKILLS

- **Research Methods**: Experimental Design, Survey, User Interview, Usability Test, Statistic Modeling, Heuristic Evaluation
- **Data Analysis**: SPSS, Python, R Programming
- **Soft Skills**: Event Management, Writing, Public Speaking, Time Management

EDUCATION

- **University of Michigan** — Ann Arbor, MI
  Ph.D Candidate in Information — School of Information — *Sep 2018 - Present*
  Advisors: *Dr. Lionel P. Robert Jr. & Dr. X. Jessie Yang*
  Anticipated Graduation: *May 2023*

- **University of Michigan** — Ann Arbor, MI
  Master in Science — Department of Industrial & Operations Engineering — *Jan 2017 - May 2018*
  Advisors: *Dr. X. Jessie Yang*

- **Hunan University** — Changsha, China
  Bachelor in Engineering — Department of Industrial Engineering — *Sep 2012 - May 2016*
  Advisors: *Dr. Lijun Song*

EXPERIENCE

- **Toyota Research Institute** — Los Altos, CA
  Research Intern — *May 2021 - August 2021*
  - Designed and executed online studies to understand the decision-making process of interacting with AI.
  - Communicated actionable insights and worked with the team to build task platforms, developed surveys, and collected behavioral and subjective data.
  - Finished and submitted a conference paper (accepted by CHI 2022).

- **University of Michigan** — Ann Arbor, MI
  Research Fellow — *Sep 2018 – Present*
  Project: Explanation and Trust in Automated Vehicle
  - Planned and conducted both exploratory and evaluative research through in-depth interviews, large-scale surveys, and experimental designs, to examine the effect of explanation modality (sound vs. text) and timing on trust in automated vehicles.
  - Analyzed driving behavioral (e.g., facial expression and eye-tracking) and subjective data (e.g., trust, anxiety, and unsafety perceptions) using t-test, linear mixed model, logistic regression and clustering analysis.

  Project: Driver's Age and Automated Vehicle Explanations
  - Led the research project through literature review, survey, and empirical test.
  - Developed and conducted experiments using a programmed driving simulator.
  - Analyzed and visualized the data using IBM SPSS Software.

  Project: Expectation and Trust in Automated Vehicles
  - Developed surveys and recruited a representative sample according to U.S. population database.
  - Applied video-editing skills to produce a study video.
  - Analyzed the large-scale data using SPSS software and MATLAB.

  Project: Personality and Automated Vehicle Safety
  - Designed questionnaires and conducted in-depth interviews to investigate the effect of personality traits on attitudes toward automated vehicles.
  - Collected and analyzed both quantitative and qualitative data for explanatory purposes.

- **University of Michigan** — Ann Arbor, MI
  Research Assistant — *Jan 2018 –Sep 2018*
  Project: Automation reliability and dual-task performance
  - Designed displays with likelihood information to help users calibrate trust in automated decision aids in a simulated surveillance task and evaluated their usability.
  - Analyzed the dataset using SPSS and MATLAB.

TEACHING EXPERIENCES

University of Michigan   Ann Arbor, MI
Graduate Student Instructors   *Sep 2019 - Sep 2021*
SI 501 - Contextual Inquiry and Consulting Foundations

- Helped students work with a real-world client who poses a problem in the context of a work environment or product/service delivery.
- Helped integrate the course by providing a communication channel between instructor and students

SI 582 - Introduction to Interaction Design

- Provided feedback to help students practice design methods and design thinking.
- Helped group collaborations by moderating the remote lecture and peer discussion sections.

SI 622 - Needs Assessment and Usability Evaluation

- Designed activities to help students practice the usability methods.
- Lead group discussions to assist the corporation between student and their clients.

SI 618 - Data Manipulation and Analysis

- Helped instructor design tasks and activities for student learning Python.
- Provided guidance and feedback to help students develop higher-level thinking.

SELECTED PUBLICATIONS

Journal Publications

- **Zhang, Q.**, Yang, X. J., & Robert, L. P. (2021). Individual Differences and Expectations of Automated Vehicles. International Journal of Human–Computer Interaction, 1-12.

- **Zhang, Q.**, Yang, X. J., & Robert, L. P. (2021). Drivers Age and Automated Vehicle Explanations. Sustainability, 13(4), 1948.

- Robert, L., Alahmad, R., Esterwood, C., Kim, S., You, S., & **Zhang, Q.** (2020). A Review of Personality in Human–Robot Interactions. Foundations & Trends in Information Systems, 4(2), 107–210

- Du, N., Haspiel, J., **Zhang, Q.**, Tilbury, D., Pradhan, A. K., Yang, X. J., & Robert Jr, L. P. (2019). Look who's talking now: Implications of AVs explanations on drivers trust, AV preference, anxiety and mental workload. Transportation research part C: emerging technologies, 104, 428-442.

Conference Proceedings

- **Zhang, Q.**, Lee, M. L., & Carter, S. (2022, April). You Complete Me: Human-AI Teams and Complementary Expertise. In CHI Conference on Human Factors in Computing Systems (pp. 1-28).

- **Zhang, Q.**, Yang, X. J., & Robert Jr, L. P. (2021). From the Head or the Heart? An Experimental Design on the Impact of Explanation on Cognitive and Affective Trust. AAAI Fall Symposium on Artificial Intelligence for Human-Robot Interaction, Arlington, Virginia USA, November 4-7, 2021.

- **Zhang, Q.**, Yang, X. J., & Robert Jr, L. P. (2021). Expectations and Trust in Automated Vehicles, In Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems (CHI2020), April 25-30, 2020, Honolulu, Hawaii, USA.

PROFESSIONAL & UNIVERSITY SERVICE

- Reviewer, The CHI Conference on Human Factors in Computing Systems
- Reviewer, Transportation Research Interdisciplinary Perspectives
- Reviewer, AIS Transactions on Human-Computer Interaction
- Reviewer, Transactions on Accessible Computing
- Student Volunteer, UMSI Prospective Student Visit Day
- Student Volunteer, UM-HFES Student Activity

PROFESSIONAL AFFILIATION

Human Factors and Ergonomics Society   2017 - Present
Student Member

ACM Special Interest Group on Computer-Human Interaction   2019 - Present
Student Member