

ZIANG XIAO

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EDUCATION

University of Illinois at Urbana-Champaign

2016-2022 [expected]

Ph.D Candidate in Computer Science; GPA: 4.00

Co-Advised by Prof. Hari Sundaram and Prof. Karrie Karahalios

Dissertation Committee: Hari Sundaram, Karrie Karahalios, Michelle X. Zhou, Heng Ji, and Brent W. Roberts

University of Illinois at Urbana-Champaign

2012-2016

B.S. with Highest Distinction in Psychology and High Distinction in Statistics & Computer Science

Advised by Prof. Dov Cohen

RESEARCH EXPERIENCE

Research Intern

Spotify, Boston MA.

Summer 2020

Advisor: Sarah Mennicken & Jenn Thom

- Conducted need-finding study by interviewing experts in recommender systems
- Designed various voice interactions for collecting user feedback in situ
- Designed and conducted online studies to evaluate different voice interactions in information elicitation

Research Intern

Juji. Inc, Saratoga CA.

Summer 2018, 2019

Advisor: Michelle X. Zhou & Huahai Yang

- Extracted semantic evidence from over 2000 real-world conversations to improve the personality inference engine.
- Built a conversation-based recommendation system for book readers.
- Built text analytic tool with symbolic and deep learning algorithm to summarize short-text conversation.
- Analyzed multiple conversation datasets to discover the relationship between human individuality and behavior.

Research Assistant, Crowd Dynamics Lab

Computer Science Department, University of Illinois

June 2016-Present

Advisor: Hari Sundaram

- Investigated the persuasiveness of algorithmically synthesized comic-style messages in behavior adoption.
- Built and studied how conversational agents could transform survey research.
- Developing and evaluating a web/mobile research platform for conducting large scale field study with conversational agents.
- Building knowledge-driven natural language generation models to generate follow-up questions for interview chatbots.

Research Assistant, Cascade Lab

Computer Science Department, University of Illinois

Aug 2015-May 2019

Advisor: Wai-Tat Fu

- Developed and evaluated a scalable online platform used by over 6000 students for training spatial visualization skills
- Studied how conversational agents can help student teaming in real-world educational setting
- Designed and developed an educational game "Cubicle" for spatial visualization skill training

PUBLICATIONS * Indicates authors contribute equally to the work.

j7. **Xiao, Z.**, Grandison, T., Liao, V., Zhou, M., and Li, Y. *[On Building AI-Powered Chatbots to Support Information Seeking during Crises]*. [Revise and Resubmission]

c10. **Xiao*, Z.**, Ge*, Y., Ji, H., Diesner, J., Sundaram, H., and Karahalios, K.. *[On A Knowledge-graph Based Approach for Follow-*

up Questions Generation in Conversational Survey]. [In submission]

- j6. **Xiao, Z.**, Mennicken, S., Huber, B., Shonkoff, A., Thom, J. and Fu, W. 2021. *Let Me Ask You This: How Can a Voice Assistant Elicit Explicit User Feedback?*. Proc. ACM Human-Computer Interaction, 2, CSCW, Article 55 (CSCW '21).
- j5. Vaccaro, K., **Xiao, Z.**, Hamilton, K. and Karahalios, K. 2021. *Contestability for Content Moderation*. Proc. ACM Human-Computer Interaction, 2, CSCW, Article 318 (CSCW '21).
- j4. Goldstein, M., Froiland J., **Xiao, Z.**, Woodard, B., Tao L., and Philpott M. 2021. Application of Online Visual-Spatial Training to Increase Visual-Spatial Ability and Growth Mindset of Engineering Students. International Journal of Engineering Education (IJEE) (In Press)
- c9. Li, T. **Xiao, Z.**, Goldstein, M., Philpott, and Woodard, B. 2021. *Evaluating an Intelligent Sketching Feedback Tool for Scalable Spatial Visualization Skill Training*. Proc. 128th ASEE Annual Conference and Exposition (ASEE '21).
- c8. Wauck, H. Woodard, B. **Xiao, Z.**, Li, T. and Bailey, B. ,2020, *A Data-Driven, Player-Centric Approach to Evaluating Spatial Skill Training Games*. Proc. 2020 Annual Symposium on Computer-Human Interaction in Play (CHI Play 20') [**Honorable Mention**]
- c7. **Xiao, Z.**, Zhou, M., Chen, W., Yang., H., and Chi, C., 2020, *If I Hear You Correctly: Building and Evaluating Interview Chatbots with Active Listening Skills*. Proc. 2020 CHI Conference on Human Factors in Computing Systems. (CHI 20')
- j3. **Xiao, Z.**, Zhou, M., Liao, V., Mark, G. Chi, C., Chen, W., and Yang., H. 2020, *Tell Me About Yourself: Using an AI-Powered Chatbot to Conduct Conversational Surveys with Open-ended Questions*. ACM Transactions on Computer-Human Interaction (TOCHI), 27(3), 1-37.
- j2. **Xiao, Z.**, Wang, X., Ho, P., Karahalios, K. and Sundaram, H. 2019. *Should We Use an Abstract Comic Form to Persuade? Experiments with Online Charitable Donation*. Proc. ACM Human-Computer Interaction, 3, CSCW, Article 75 (CSCW '19).
- c6. **Xiao, Z.**, Zuo, S., Zhao, J., Fu, W., Goldstein, M., Philpott, M., Laystrom-Woodard, J., Pool, M., Wolters, A. and Woodard, B. 2021. *Understanding Interrelated Growth Mindset and Academic Participation & Performance*. Proc. 127th ASEE Annual Conference and Exposition (ASEE '20).
- c5. **Xiao, Z.**, Zhou, M., and Fu, W. 2019. *Who Should Be My Teammates: Using A Conversational Agent to Understand Individual Difference and Help Teaming*. Proc. the 24th International Conference on Intelligent User Interfaces (IUI '19).
- j1. Gao, M.*, **Xiao, Z.***, Karahalios, K. and Fu, W. 2018. *To Label or Not to Label: The Effect of Stance and Credibility Labels on Readers' Selection and Perception of News Articles*. Proc. ACM Human-Computer Interaction, 2, CSCW, Article 55 (CSCW '18).
- c4. **Xiao, Z.**, Wauck, H., Peng, Z., Ren, H., Zhang, L., Zuo, S., Yao, Y., and Fu, W. 2018. *Cubicle: An Adaptive Educational Gaming Platform for Training Spatial Visualization Skills*. Proc. 23rd International Conference on Intelligent User Interfaces (IUI '18).
- c3. Chiu, P., Wauck, H., **Xiao, Z.**, Yao, Y., and Fu, W. 2018. *Supporting Spatial Skills Learning with Gesture-based Embodied Design*. Proc. 23rd International Conference on Intelligent User Interfaces (IUI '18).
- c2. **Xiao, Z.**, Yao, Y., Yen, C., Dey, S., Wauck, H., Leake, J., Woodard, B., Wolters, A., and Fu, W. 2017. *A Scalable Online Platform for Evaluating and Training Visuospatial Skills of Engineering Students*. Proc. 124th ASEE Annual Conference and Exposition (ASEE '17)
- c1. Wauck, H., **Xiao, Z.**, Chiu, P., and Fu, W. 2017. *Untangling the Relationship Between Spatial Skills, Game Features, and Gender in a Video Game*. Proc. 22nd International Conference on Intelligent User Interfaces (IUI '17). ACM, New York, NY, USA, 125-136

POSTER & DEMOS

- d1. Zhou, M. Chen, W. **Xiao, Z.**, Yang, H., Chi, T. and Williams, R. .2019. *Getting Virtually Personal: Chatbots Who Actively Listen to You and Infer Your Personality*. Proc. 24th International Conference on Intelligent User Interfaces Companion (IUI '19 Companion).

p3. **Xiao, Z.**, Zuo, S., Zhao, J., Fu, W., Goldstein, M., Philpott, M., Laystorm-Woodard, J., Pool, M., Wolters, A., and Woodard, B. 2019. *Towards Understanding Interrelated Growth Mindset and Academic Participation & Performance*. Proc.126th ASEE Annual Conference and Exposition (ASEE '19). Tampa, Florida.

p2. **Xiao, Z.**, Yao, Y., and Fu, W. 2018. *An Intelligent Educational Platform for Training Spatial Visualization Skills*. Proc. 23rd International Conference on Intelligent User Interfaces Companion (IUI '18 Companion).

p1. **Xiao, Z.**, and Bub, K. 2016. Longitudinal Associations between Self-Regulation and Mental Health across Early Childhood to Adolescence” at 16th Biennial Meeting of Society for Research on Adolescence Baltimore, Md. (SRA ‘16)

INVITED TALK

t2. **Xiao, Z.** *Petri: A open-source infrastructure for longitudinal behavioral research in the field*. At Center for Social and Behavioral Science: Human Subjects Research Workshop. 2021

t1. **Xiao, Z.**, *A Scalable Online Platform for Evaluating and Training Visuospatial Skills of Engineering Students*. Educational Psychology Brown Bag. 2017

SERVICES

Associate Chair: CHI 21 Late Breaking Works, CSCW 21 Poster, CSCW 22

Reviewer: CHI 20-22, CSCW 19-22, IUI 17-20, CHI PLAY 18-21, ECSCW 21, ACM Transactions on Interactive Intelligent Systems (TiiS), International Journal of Human-Computer Interaction (IJHCI)

Student Volunteer: CHI 17, CSCW 20

Teaching Assistant: CS465 User Interface Design; CS225 Data Structure and Algorithms; CS416 Data Visualization; ENG 177 Spatial Visualization

TECHNICAL AND RESEARCH SKILLS

Programing Language: Python; JavaScript; C++; HTML; MySQL

Machine Learning Tools: R; TensorFlow; Pytorch; NLTK; Gensim

Statistics Methods: Linear Regression; Mixed Effect Model; Structural Equation Modeling; Bayesian Analysis

Research Methods: Lab/Field Experiment Design; Natural Language Processing and Generation; Interview; Participatory Design Workshop