Xiaofei Zhou

zhouxf626@gmail.com || http://zhouxf.com/

Research Interest

Human-Computer Interaction Artificial Intelligence Education Educational Game Design
Computer-Supported Collaborative Learning

Education

University of Rochester (UR) 2019 - 2024 (Expected)
Ph.D. student, Computer Science
Advisors: Dr. Zhen Bai

Carnegie Mellon University (CMU) 2018 - 2019
Human-Computer Interaction Institute, School of Computer Science
MS in Educational Technology and Applied Learning Sciences
Advisors: Dr. Geoff Kaufman, Dr. Ken Keodinger

Tsinghua University (THU) 2014 - 2018
B.Eng., Industrial Engineering with Specialization in Human Factors

Publication

Peer-Reviewed Conference and Journal Papers

P1 Wan, Xiaoyu, **Xiaofei Zhou**, Zaiqiao Ye, Chase K. Mortensen, and Zhen Bai. "SmileyCluster: supporting accessible machine learning in K-12 scientific discovery." In Proceedings of the Interaction Design and Children Conference, pp. 23-35. 2020. (**IDC 2020**)

Workshop, Symposia, Poster, and Extended Abstracts

A2 Xiaoyu Wan, **Xiaofei Zhou**, Zhen Bai. Demystifying SmileyCluster: Accessible Machine Learning for K-12 Students (**GHC'2020** Poster Session)

A1 **Xiaofei Zhou**, Jingwan Tang, Sufian Mushtaq, Xiaoyu Wan, Zhen Bai. Empowering Teachers to Integrate Machine Learning into K-12 Scientific Discovery. International Workshop on Education In Artificial Intelligence K-12 (**EduAI'2020 Workshop Paper**)

Work in Progress or in Submission

W4 **Xiaofei Zhou**, Jingwan Tang, Saad Ahmad, Michael Daley, Zhen Bai. "Now, I Want to Teach it for Real!": Introducing Machine Learning as a Scientific Discovery Tool for K-12 Teachers.

W3 **Xiaofei Zhou**, Jessica Van Brummelen, Phoebe Lin. Designing AI Learning Experiences for K-12:

Emerging Works, Future Opportunities and a Design Framework.

W2 Jingwan Tang, **Xiaofei Zhou**, Xiaoyu Wan, Zhen Bai. ML4STEM Professional Development Program: Bridging the Gap between Machine Learning and K-12 STEM Teaching

W1 Kexin Yang, **Xiaofei Zhou**, Lulian Radu. XR-Ed Framework: Designing Instruction-driven andLearner-centered Extended Reality Systems for Education.

Talks and Presentations

T2 **Empowering Teachers to Integrate Machine Learning into K-12 Scientific Discovery,** International Workshop on Education in Artificial Intelligence K-12 (EDUAI-20), held in conjunction with the International Conference on Artificial Intelligence in Education (AIED-20) 07/2020

T1 **SmileyCluster: supporting accessible machine learning in K-12 scientific discovery,** Interaction Design and Children Conference (IDC-20) 06/2020

Honors and Awards

NSF I-Corps, GoTracker for Project-Based Learning@CMU 2019

Merit Scholarship, CMU ($9000) 2018

Special Award of 36th Challenge Cup, THU 2018

Science and Technology Innovation Award, Department of Industrial Engineering, THU 2018

Outstanding Volunteer for IxDC, International Conference of User Experience Design 2016

Tsinghua University Social Practice Gold Award, THU 2015

Research Experiences

Character Creation Assistance Tool Sept 2018-Present

Advisor: Dr. Geoff Kaufman, Human-Computer Interaction Institute, Carnegie Mellon University

- Created storyboards and conducted speed dating for interactive system and experiment design.
- Analyzed interaction between 10 creators and 3 readers for prior research.
- Recruited participants for the formal experiment and data collection.

Intelligent Tutoring System for Information Visualization Sept 2018-Sept 2019

Advisor: Dr. Ken Keodinger, Human-Computer Interaction Institute, CMU

- Conducted cognitive task analysis (CTA) with 11 experts and novices.
- Designed a new instructional model for information visualization based on data from CTA.
- Conducted learner testing with 30 participants and verified the effectiveness of the instructional model.

Academic Writing Assistance for Non-native English Speaker Oct 2017-Sept 2018

Advisor: Dr. Chun Yu, Department of Computer Science and Technology, THU

Special Award of 36th Challenge Cup, Tsinghua University.

- Improved user experience by designing and developing esoda.org, an online platform for academic English writing assistance with 3000+ average daily visits.
- Redesigned with learning principles for its further development and better learning outcome

A Machine Learning-Based KES for Interaction Design Sept 2017-June 2018

Advisor: Dr. Patrick Rau, Department of Industrial Engineering, THU

- Trained neural net models for Kansei classification by transfer learning from BVLC with Matlab, accuracy=84.7%.
- Conducted neuron analysis to analyze the rules of kawaii perception for Japanese females and found that Chinese females and Japanese females perceived kawaii differently.
- Built an auxiliary system for cross-cultural product design then designed and conducted validation experiments.

Sensing Curiosity in Play and Responding Jun-Oct, 2017

Advisor: Dr. Justine Cassell, Human-Computer Interaction Institute, CMU

- Created a 17-iteration UI in Java for the Wizard-of-Oz study then conducted the heuristic evaluation and summative usability testing.
- Compiled more than 7000 logs of data from previous gameplay and extracted the typical features of children's game behaviors and strategies in order to build the children's curiosity behavior model.

Exploratory Research: Overuse and Abstinence of Social Media Apr-Sept, 2017

Advisor: Dr. Patrick Rau, Department of Industrial Engineering, THU

- Conducted literature research on social media overuse, abstinence and impact.
- Designed and conducted a 3-week social media abstinence experiment with 33 participants.
- Analyzed qualitative and quantitative data from 490 logs of diary study, interviews and subjective
- scales then demonstrated the effectiveness of short-term abstinence to improve productivity, life satisfaction and autonomy, especially for social media addicts.