

Xu Wang Curriculum Vitæ

Newell-Simon Hall 4617
5000 Forbes Ave
Pittsburgh, PA 15213

<http://www.iamxuwang.com>
+1 (412) 520-6105
xuwang@cs.cmu.edu

Research Interest

Human-Computer Interaction, Learning@Scale, Artificial Intelligence in Education, Data Science, Computer-Supported Collaborative Learning

Education

- 08/2014 – **Carnegie Mellon University**
06/2020 (expected) Ph.D. in Human-Computer Interaction
School of Computer Science
Thesis: Sourcing Student Open-Ended Solutions to Create Scalable Learning Opportunities
Advisor: Kenneth R. Koedinger and Carolyn P. Rose
Committee: Jeffrey P. Bigham, Chinmay Kulkarni, and Scott Klemmer
PIER Associate (Program in Interdisciplinary Education Research), 2016-present
- 08/2013 – **Harvard University**
06/2014 Master of Education in Technology, Innovation and Education
Graduate School of Education
Advisor: Christopher Dede
- 09/2009 – **Beijing Normal University**
06/2013 Bachelor of Science in Educational Technology
School of Educational Technology
Minored in Mathematics, School of Mathematical Sciences
Graduated with highest honor, rank 1/86
- 08/2011 – **University of Manchester**
02/2012 Exchange Program in Accounting and Finance
Manchester Business School

Peer-Reviewed Conference and Journal Papers

- [C.15] (Under Review) **Xu Wang**, Carolyn Rose, Kenneth Koedinger. Seeing Beyond Expert Blind Spots: Online Learning Design for Scale and Quality.
- [C.14] (Under Review) **Xu Wang**, Meredith Thompson, Kexin Yang, Dan Roy, Kenneth Koedinger, Carolyn Rose, Justin Reich. Practice-Based Teacher Education with ELK: A Role-Playing Simulation for Eliciting Learner Knowledge.
- [C.13] **Xu Wang**, Srinivasa Talluri, Carolyn Rose, Kenneth Koedinger. UpGrade: Sourcing Student Open-Ended Solutions to Create Scalable Learning Opportunities. In *Proceedings of the sixth ACM Conference on Learning@Scale (L@S 2019)*. Chicago, IL. 2019.
- [C.12] **Xu Wang**, Benjamin Lafreniere, Tovi Grossman. Leveraging Community-Generated Videos and Command Logs to Classify and Recommend Software Workflows. In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (CHI 2018)*. Montréal, Canada. 2018.
- [C.11] **Xu Wang**, Yali Chen, Amanda Godley, Carolyn Rose. Public Peer Review Motivates Higher Quality Feedback. In *Proceedings of the 13th International Conference of the Learning Sciences (ICLS 2018)*. International Society of the Learning Sciences. London, United Kingdom. 2018.
- [C.10] Sree Sankaranarayanan, Cameron Dashti, Chris Bogart, **Xu Wang**, Majd Sakr, Carolyn Rose. When Optimal Team Formation is a Choice – Self-Selection versus Intelligent Team Formation Strategies in a Large Online Project-Based Course. In *Proceedings of the 19th International Conference on Artificial Intelligence in Education (AIED 2018)*. London, United Kingdom. 2018.

- [C.9] Anhong Guo, Saige McVea, **Xu Wang**, Patrick Clary, Ken Goldman, Yang Li, Yu Zhong, Jeffrey Bigham. Investigating Cursor-based Interactions to Support Non-Visual Exploration in the Real World. In *Proceedings of the ACM SIGACCESS Conference on Computers and Accessibility (ASSETS 2018)*. Galway, Ireland. 2018.
- [C.8] **Xu Wang**, Miaomiao Wen, Carolyn Rose. Contrasting Explicit and Implicit Scaffolding for Transactive Exchange in Team Oriented Project Based Learning. In *Proceedings of the 12th International Conference on Computer Supported Collaborative Learning (CSCL 2017)*. International Society of the Learning Sciences. Philadelphia, PA. 2017.
- [C.7] **Xu Wang**, Miaomiao Wen, Carolyn Rose. Towards Triggering Higher-order Thinking Behaviors in MOOCs. In *Proceedings of the Sixth International Conference on Learning Analytics & Knowledge (LAK 2016)*. Edinburgh, Scotland. 2016.
- [C.6] Miaomiao Wen, Keith Maki, **Xu Wang**, Steven Dow, James Herbsleb, Carolyn Rose. Transactivity as a Predictor of Future Collaborative Knowledge Integration in Team-Based Learning in Online Courses. In *Proceedings of the 8th International Conference on Educational Data Mining (EDM 2016)*. International Society of the Learning Sciences. Raleigh, NC. 2016.
- [C.5] Gaurav Tomar, Sree Sankaranarayanan, **Xu Wang**, Carolyn Rose. Coordinating Collaborative Chat in Massive Open Online Courses. In *Proceedings of the 12th International Conference of the Learning Science (ICLS 2016)*. International Society of the Learning Sciences. Singapore. 2016.
- [C.4] **Xu Wang**, Diyi Yang, Miaomiao Wen, Kenneth Koedinger, Carolyn Rose. Investigating How Student's Cognitive Behaviors in MOOC Discussion Forums Affect Learning Gains. In *Proceedings of the 8th International Conference on Educational Data Mining (EDM 2015)*. International Educational Data Mining Society. Madrid, Spain. 2015.
- [C.3] Su Cai, **Xu Wang**, Feng-Kuang Chiang. A case study of Augmented Reality simulation system application in a chemistry course. *Computers in Human Behavior*. 37(8), 31-40. 2014.
- [C.2] Su Cai, Feng-Kuang Chiang, **Xu Wang**. Using the Augmented Reality 3D Technique for a Convex Imaging Experiment in a Physics Course. *International Journal of Engineering Education*, 29(4), 856-865. 2013.
- [C.1] Su Cai, **Xu Wang**, Mengnan Gao, Shengquan Yu. Simulation Teaching in 3D Augmented Reality Environment. In *Proceedings of the IIAI International Conference on Advanced Applied Informatics (IIAI AAI 2012)*. IEEE Computer Society. Fukuoka, Japan. 2012.

Workshop, Symposia, Consortia, and Extended Abstracts

- [A.4] Sreecharan Sankaranarayanan, **Xu Wang**, Cameron Dashti, Marshall An, Clarence Ngoh, Majd Sakr, and Carolyn Rose. An Intelligent-Agent Facilitated Scaffold for Fostering Reflection in a Team-Based Project Course. In *Proceedings of the 20th International Conference on Artificial Intelligence in Education (AIED 2019 Poster)*. Chicago, IL. 2019.
- [A.3] Sreecharan Sankaranarayanan, Cameron Dashti, Christopher Bogart, **Xu Wang**, Majd Sakr, Michael Hilton, Carolyn Rose. Group formation in the digital age: Relevant characteristics, their diagnosis, and combination for productive collaboration. In *Proceedings of the 13th International Conference on Computer-Supported Collaborative Learning (CSCL 2019 Symposium)*. Lyon, France. 2019.
- [A.2] Sreecharan Sankaranarayanan, **Xu Wang**, Cameron Dashti, Haokang An, Claernce Ngoh, Michael Hilton, Majd Sakr, and Carolyn Rose. Online Mob Programming: Bridging the 21st Century Workplace and the Classroom. In *Proceedings of the 13th International Conference on Computer-Supported Collaborative Learning (CSCL 2019 Poster)*. Lyon, France. 2019.
- [A.1] **Xu Wang**. Public Peer Review for Collaborative Learning in MOOCs. In *Proceedings of the 12th International Conference on Computer Supported Collaborative Learning (CSCL 2017 Doctoral Consortium)*. Philadelphia, PA. 2017.

Patents

- [P.1] Tovi Grossman, Benjamin Lafreniere, **Xu Wang**. Leveraging Community-Generated Videos and Command Logs to Classify and Recommend Software Workflows. U.S. Patent Application, filed March 24, 2018.

Awards and Honors

- 2019 Selected to participate in the 2019 EECS Rising Stars Workshop
- 2019 NSF I-Corps @CMU Program for project UpGrade (\$2.5K)
- 2017 CSCL 2017 Doctoral Consortium Travel Grant
- 2012 Top 10 students Award of Beijing Normal University
- 2011 National Scholarship for College Students of China

Professional Experience

- 05/2017 – **Autodesk Research, Toronto**
 - 08/2017 Research Intern on intelligent learning (UI Research Group)
Mentor: Tovi Grossman
Developed techniques to classify and recommend software workflows leveraging community-generated videos and command logs (*CHI '18*)
- 05/2016 – **Autodesk, San Francisco**
 - 08/2016 Research Intern on competency modeling
Mentors: Adam Menter, and Alexandra Bergin
- 02/2014 – **HarvardX, Harvard University**
 - 05/2014 Research Intern on qualitative course comparison

Teaching and Invited Talks

Teaching Assistant

- 2018 **05834: Applied Machine Learning**
School of Computer Science, Carnegie Mellon University
Instructor: Carolyn P. Rose
- 2017 **05610: User Centered Research & Evaluation**
School of Computer Science, Carnegie Mellon University
Instructors: Amy Ogan, Jim Morris

Invited Talks and Presentations

- 11/2019 **Building Quality and Scalable Educational Experience through Human-AI Partnership**
University of Minnesota, Learning Informatics Seminar (Host: Sashank Varma, Bodong Chen)
- 03/2019 **UpGrade: Sourcing Student Open-Ended Solutions to Create Scalable Learning Opportunities**
CMU Guest Lecture, Course 05840: Tools for Online Learning (Host: Chinmay Kulkarni)
- 04/2017 **Scaling Peer Interaction and Assessment for Better and More Efficient Online Learning**
Ecopia Tech Inc., Toronto (Host: Yuanming Shu)
- 03/2017 **Discussion-based Interventions in MOOCs**
Building the Learning Analytics Curriculum Workshop at LAK '17, Vancouver
- 01/2017 **MOOC Forum Analysis Techniques and Collaborative Learning Support**
Beijing Normal University (Host: Shengquan Yu)

Mentoring

- 2019 – present **Alexis Soto**
Undergraduate student at School of Computer Science of Carnegie Mellon University
- 2019 **Kexin Yang**
Master student at Human-Computer Interaction Institute, now PhD student at School of Computer Science of University of Waterloo
- 2018 – 2019 **Teja Talluri**
Master student at Human-Computer Interaction Institute, now Data Scientist at Inspire
- 2018 **Jiaojiao Song**
Master student at Human-Computer Interaction Institute, now Product Designer at Roostify
- 2018 **Rajitha Pulivarthy**
Undergraduate student at School of Computer Science of Carnegie Mellon University
- 2017 **Yali Chen**
Master student at Human-Computer Interaction Institute, now Product Manager at Cengage

Service

- 2017 – present **Journal Reviewer**
Journal of American Education Research Association, Journal of Artificial Intelligence in Education, IEEE Transactions on Emerging Topics in Computing
- 2017 – present **Conference Reviewer**
L@S '19, CHI '18 '19, CSCL '17 '19, AIED '18, ICLS '18, EDM '17 '18, LAK '17
- 2018 – present **Session Chair**
CHI 2018 Session: Children's Technology Use and Safety
- 2012 – present **Organizing Committee**
2nd International STEM in Education Conference, 2012

References

Kenneth R. Koedinger

Professor
Human-Computer Interaction Institute, Carnegie Mellon University
koedinger@cmu.edu

Carolyn P. Rose

Professor
Language Technologies Institute, Human-Computer Interaction Institute, Carnegie Mellon University
cprose@cs.cmu.edu

Tovi Grossman

Assistant Professor
University of Toronto
tovi@dgp.toronto.edu

Justin Reich

Assistant Professor
Massachusetts Institute of Technology
jreich@mit.edu

Last updated: March 4, 2020