Fan YU

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Education

University of Missouri-Columbia, Columbia, MO 8/2019 - Expected Graduation July 2023
PhD in School of Information Science & Learning Technologies, GPA: 3.95
Quantitative Research Certificate (QRC)
User Experience and Usability Certificate (UXU)

Missouri State University, Springfield, MO 8/2015 - 05/2017
Graduate Certificate of Curriculum and Instruction
M.S. in Elementary Education Science (online-based study), GPA: 3.78

Missouri State University, Springfield, MO 6/2015 - 05/2015
Exchange Student, GPA: 3.66

University of Xi'an International Studies, Xi'an, China 9/2011 - 05/2015
B.A. in English Education (TESOL), GPA: 3.24

Honors & Awards

- H.H. London Graduate Research Assistantship Fund, awarded by the College of Education and Human Development, **University of Missouri-Columbia** for the academic year 2023-2024, $2,000
- 3rd Place Award in the Behavioral Sciences category, 39th Annual research and Creative Activities Forum. Awarded by the Graduate Professional Council, **University of Missouri-Columbia**, April 2023
- H.H. London Graduate Research Scholarship, awarded by the College of Education and Human Development, **University of Missouri-Columbia** for the academic year 2022-2023, $2,000
- David H. Jonassen scholarship, awarded by the College of Education and Human Development, **University of Missouri-Columbia** for the academic year 2022-2023, $2,000
- London Graduate Research Scholarship, awarded by the College of Education, **University of Missouri-Columbia** for the academic year 2021-2022, $2,000
- M. J. McCormick Grad Fellowship, awarded by the College of Education, **University of Missouri-Columbia** for the academic year 2020-2021, $1,000
- 2014, Outstanding Volunteer at **Xi'an International Studies University**
- 2012 & 2013, Second-Class Scholarship of **Xi'an International Studies University**
- 2013, "Merit Students" of **Xi'an International Studies University**
- 2012, "Best Debater" in 3rd Chinese Debating Contest of **Xi'an International Studies University**

Research Experience

Adroit Studio, University of Missouri-Columbia 8/2022 – Present
Research Assistant/ UX Researcher

- Engage in research for an IES measurement project **funded by Department of Education** titled *Measuring Prosocial Behavior in Schools through a Virtual Reality Game: vSchool* This project

involved the investigation of students' social interactions during an afterschool setting (e.g., basketball, bus station). (e.g., basketball, bus station), and conduct User Experience (#UX) studies with over 20 students in lab settings and 50 students in elementary schools.
- Contribute to Mission HydroSci (MHS), a project **funded by the U.S. Department of Education EIR grant**. MHS focuses on a game-based virtual learning environment, introducing innovative game design to middle school science education. I am responsible for conducting User Experience (#UX) and learner experience design (#LX) studies with 250 students in both laboratory and middle school settings.
- Conducted data collection, analysis, and interpretation from various sources, including interviews, observations, surveys, facial expressions, and eye tracking data.
- Collaborated with developers and designers in the Studio to successfully launch various products, offering valuable design suggestions and insights.
- Authored usability test reports and published works focused on user experience and the design of learning technologies.

Improving Engineering-Related Social Cognitions through Teaching Practices, University of Missouri-Columbia 1/2020 – Present
Research Assistant
- Work on **this NSF funded project** under the supervision of Dr. Rose M. Marra.
- Designed, administered, and analyzed surveys to investigate the impact of social cognitive-based teaching practices on engineering students' self-efficacy and outcome expectations, aligning with the *Social Cognitive Career Theory* model.
- Established and enhanced the Faculty Learning Community (FLC) comprised of faculty in the College of Engineering, which aims to increase the participation and persistence of women in engineering through enhanced social cognitions which have been linked to career outcomes.
- Collaborated with team members to develop training programs that assist faculty in creating and implementing effective teaching practices.
- Authored and submitted publications to conferences in the field of engineering education.

Information Experience Lab (IE Lab), University of Missouri-Columbia 1/2020 – 1/2022
Research Assistant
- Conducted User Experience (#UX) and Learner Experience (#LX) research for clients, employing a blend of quantitative and qualitative methodologies under the guidance of Dr. Isa Jahnke.
- Designed and improved online courses (e.g., a self-paced online course to teach risk-based inspection of food imports, review course via link RIFI).
- Mentored and provided guidance to interns completing internships within the lab, offering instruction in data collection, analysis, report writing, and presentations.
- Authored usability test reports (Sample 1, Sample 2).

TigerAware Project, University of Missouri-Columbia 8/2021 – 12/2021
PI of User Experience Evaluation
- Collaborated with researchers and developers within the College of Engineering to assess the user experience (#UX) of TigerAware, a profitable successful survey platform that enables researchers to create, administer, and analyze surveys with features such as notification scheduling and phone sensor configurations.

Technology-Enhanced Learning Lab (TELL), University of Missouri-Columbia 8/2019 – 8/2020
Research Assistant

- Participated in enhancing the Virtual Reality Online Orientation (VRO2), a 3D Virtual Reality Learning Environment (VRLE) using OpenSimulator.
- Facilitated Virtual Reality Celebrations for SISLT students within OpenSimulator.
- Conducted participant observations and recorded their behaviors, collecting and analyzing both qualitative and quantitative data.
- Wrote research reports, articles, and kept the TELL Lab website updated with the latest news.

Teaching

Course Number	Course Name	Role	Organization	Time
IS_LT 4473	Introduction to Project Management	Online Course Instructor	University of Missouri-Columbia	Spring 2023
	Risk Based Assessment	Instructional designers (video lectures, interactive tutorials, digital games)	University of Missouri-Columbia	Spring 2022
IS_LT 9480	Internship in Information Science and Learning Technologies	Guided interns in conducting UX tests and report writing as their mentor.	University of Missouri-Columbia	Spring 2021
	College of Engineering - Faculty Learning Community	Developed an online Canvas course; delivered training to faculty members		
	iMotion Software Training	Provide training to other labs within the school about this software.	University of Missouri-Columbia	
	English Teacher for K12		New Oriental Education, Beijing, China	06/2015-06/2016

Leadership and Services

University of Missouri-Columbia, Columbia, MO 1/2023 - 05/2023

- Acted as the School of Information Science & Learning Technologies representative in the General Assembly of the Graduate Professional Council (GPC), the official student government representing all graduate, professional, and post-baccalaureate students at the University of Missouri (MU) in Columbia.

Missouri State University, Springfield, MO 2015

- Hosted the 2015 Chinese Lunar New Year banquet as a bilingual host
- Participated as a traditional Chinese dancer in the International Banquet
- Volunteered for the International Tour

University of Xi'an Foreign Studies, Xi'an, China 2011-2014

- Coordinated various school events, including organizing drama performances, welcoming new students, and hosting cultural showcases.
- Led student initiatives within the PR Department of the College of English Education, working in collaboration with local primary and middle schools for English teaching programs.
- Participated as a debater in multiple school, inter-school, and international debate contests.

Publications

Journal Articles (peer-reviewed)

1. Li, S., Singh, K., Riedel, N., **Yu, F**., & Jahnke, I. (2022). Digital learning experience design and research of a self-paced online course for risk-based inspection of food imports. *Food Control, 135*, 108698. https://doi.org/10.1016/j.foodcont.2021.108698

Manuscripts under Development

1. **Yu, F.**, Orton, S. L., Flores, L., & Marra, R. (In Development, plan to submit in Dec 2023). Predictors Of Engineering related Self-efficacy Positive Outcome Expectations, and Persistence Intentions Across Gender and Racial/ethnic Groups.
2. **Yu, F.,** Orton, S. L., Flores, L., & Marra, R. (In Development, plan to submit in Dec 2023). Predictors Of Engineering related Self-efficacy Positive Outcome Expectations, and Persistence Intentions Across Gender and Racial/ethnic Groups.
3. **Yu, F.**, Hung, A., Afiah, M., and Bergin, C. S. L. (In Development, plan to submit in Dec 2023). Understanding Student Preferences and Challenges in their Gaming Experience: Design Recommendations for a Digital Game-Based Prosocial Behavior Assessment in Elementary Education

Conference Proceedings

1. **Yu, F.**, Orton, S. L., Flores, L., & Marra, R. (2023, June). Student perceptions of confidence in learning and teaching before and after teaching improvements. Paper presented at *2023 ASEE Annual Conference & Exposition*, Baltimore, Maryland. https://peer.asee.org/43104
2. Zhao, F., **Yu F.**, Trull, T., & Shang, Yi. (2023). A New Method Using LLMs for Keypoints Generation in Qualitative Data Analysis. *Proceedings of the 2023 IEEE Conference on Artificial Intelligence* (CAI), Santa Clara, CA, USA, 333-334. https://doi.org/10.1073/pnas.1910510116
3. **Yu, F.**, Milord, J., Orton, S., Flores, L., & Marra, R. (2022). Work in Progress: Faculty choice and reflection on teaching strategies to improve engineering self-efficacy. *2022 ASEE Annual Conference & Exposition*. 2022 ASEE Annual Conference. Retrieved from https://par.nsf.gov/biblio/10352029.
4. **Yu, F.**, Milord, J., Orton, S. L., Flores, L., & Marra, R. (2022). The concerns and perceived challenges students faced when traditional in-person engineering courses suddenly transitioned

to remote learning. *2022 ASEE Annual Conference & Exposition*. Retrieved from https://par.nsf.gov/biblio/10352035.

5. **Yu, F.**, & Milord, J., & Orton, S., & Flores, L., & Marra, R. (2021). Students' Evaluation Toward Online Teaching Strategies for Engineering Courses during COVID. Paper presented at *2021 ASEE Midwest Section Conference*, Virtual. 10.18260/1-2-1153-38345

6. Milord, J., & **Yu, F.**, & Orton, S. L., & Flores, L. Y., & Marra, R. M. (2021, July), Impact of COVID-19 Transition to Remote Learning on Engineering Self-efficacy and Outcome Expectations. *2021 ASEE Virtual Annual Conference*. Retrieved from https://par.nsf.gov/biblio/10301122.

7. **Yu, F.** & Strobel, J. (2021). Work-in-Progress: Pre-college Teachers' Metaphorical Beliefs about Engineering. *2021 IEEE Global Engineering Education Conference (EDUCON),* 2021, pp. 1497-1501, doi: 10.1109/EDUCON46332.2021.9454049.

8. **Yu, F.**, Xu, X., Bueno Vesga, J., He, H., Sadanala, G. & Li, S. (2020). Online Orientation in Virtual Reality for Graduate Students: A Discussion of the Preliminary Results. In *Proceedings of EdMedia + Innovate Learning* (pp. 1271-1276). Online, The Netherlands: Association for the Advancement of Computing in Education (AACE). https://www.learntechlib.org/primary/p/217444/.

9. Bueno Vesga, J., Xu, X., He, H., Sadanala, G., Li, S. & **Yu, F.** (2020). Technostress and Student's Intention to use VR for Learning. In D. Schmidt-Crawford (Ed.), *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 1005-1010). Online: Association for the Advancement of Computing in Education (AACE). https://www.learntechlib.org/primary/p/215855/

10. Sadanala, G., Xu, X., He, H., Bueno, J., **Yu, F.** & Li, S. (2020). Perseverance and Engagement for the Success in a 3D Virtual Reality Learning Environment – A Cube Quest Activity. In D. Schmidt-Crawford (Ed.), *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 1018-1023). Online: Association for the Advancement of Computing in Education (AACE). https://www.learntechlib.org/primary/p/215857/

11. Li, S., Xu, X., Bueno, J., He, H., Sadanala, G. & **Yu, F.** (2020). Through the Lens of the Limited-Capacity Assumption in Cognitive Theory of Multimedia Learning (CTML): A Discussion on the Desktop Virtual Reality (VR) Online Orientation. In D. Schmidt-Crawford (Ed.), *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 510-516). Online: Association for the Advancement of Computing in Education (AACE). https://www.learntechlib.org/primary/p/215790/

Conference Presentations

1. **Yu, F.**, Hung, C., Bergin, C., Griffin, J. (2023). A Game-Based Prosocial Behavior Measurement for Middle School Students – A Usability Study. Accepted by AECT 2023 International Convention.

2. **Yu, F.**, Orton, S., Marra, R., Flores, L. (2023). Overview of the Effect of Changing Teaching Strategies Based on the Social Cognitive Career Theory Model in Online Engineering Education. Accepted by AECT 2023 International Convention.

3. Chen, H., Yan, L., **Yu, F.**, Li, S., & Luo, W. (2023). Bridge the Cultural Gap in Online Learning Environment. Accepted by AECT 2023 International Convention.

4. **Yu, F.**, Xu, X., Bueno Vesga, J., Xu, X., He, H., Sadanala, & G., Li, S. (2020). A 3D VR-enabled Online Orientation for New Graduate Students: Do They Learn Anything? Presented at AECT 2020 International Convention.

Invited Talk

1. **Guest Speaker.** The 20th Cyber Education Forum (CEF) ICE Institute. Theme: "The Development of Adaptive Online Learning". On Monday, 27 February 2023, online. Indonesia Cyber Education Institute (ICE-Institute).

Technical Reports: UX and Usability

1. Li, S., **Yu, F.**, Singh, K., & Jahnke, I. (2021). *An Accessibility and Usability Study on the Website of ACM Group 2022 Conference*. University of Missouri-Columbia, MO: IE Lab.
2. **Yu, F.**, Riedel, N., & Williams, B. (2021). *A User Experience Study of the Zoom Virtual Meeting Platform*. University of Missouri-Columbia, MO: IE Lab.

Professional Service

Peer Review

2022	Reviewer of 8 manuscripts for the 2022 Association for Educational Communications and Technology (Conference)
2022	Reviewer of 10 manuscripts for the 2022 American Educational Research Association (Conference)
2021	Reviewer of 10 manuscripts for the 2022 American Educational Research Association (Conference)
2020	Reviewer of 9 manuscripts for the 2021 American Educational Research Association (Conference)

Work Experience

CollegePre Group, Beijing, China 07/2016 - 08/2019

Educational Products Developer for K-12 students/UX Design/Research Group Member

- Assisted the Product Development Manager to work on designing a series of project-based learning courses for interdisciplinary STEAM subjects based on CEFR and CCSS, which are sold to institutions and used by young Chinese EFL learners.
- Designed the framework and contents of paper resources used by teachers and students including textbooks, workbooks, assessments, and lesson plans.

- Designed the wireframe, prototypes, and contents of digital resources; collaborated with developer team and conducted usability tests for digital products including online courses, in-class interactive games, mobile apps, and teacher/parents online center.

Sesame Street English Project Products Developer/Group Leader

- Cooperated with Sesame Workshop to improve/adjust the lesson structures of the textbooks introduced from the U.S. to classes in China.
- Designed paper and digital resources including wireframes and prototypes for various courses such as the courses of Drama, Reading, Art, and Value Class Series; integrated them into the *Sesame Street* courses; they widely used across 200 institutions (all courses are published by the name of company).

Teacher Training Group Member

- Administered and designed the content of teacher training to help teachers/the leader of institutions understand the products made by the company.
- Collected feedback from teachers, and then revised the products company's products.

New Oriental Education, Beijing, China 06/2015-06/2016

English Teacher for K12

- Taught English in class, including phonics, reading and writing.
- Collected and analyzed the data from the teacher evaluation system and students' performances.

Skills

- Proficient in RStudio for quantitative data analysis, including Confirmatory Factor Analysis (CFA), Exploratory Factor Analysis (EFA), T-tests, ANOVA, and Linear Regression.
- Experienced with Unity and SolidWorks for 3D modeling.
- Proficient in HTML for web design.
- Skilled in using Figma and Sketch for UX design.
- Proficient in eye tracking data analysis using iMotion software.
- Fluent in Chinese - Mandarin (Native); Proficient in English.

Volunteer Experience

Chinese Language Teacher, Columbia, MO 08/2019 – 01/2020

Volunteer Teacher

- Teach Chinese to students who are learning Chinese as a second language.
- Cooperate with other teachers to prepare lesson plans and teaching aids.

AECT Conference 2019, Las Vegas, MO 10/2019

Volunteer Supervisor in Equipment Group

- Ensured proper functioning of equipment and adequate technical support for the presenters.
- Trained and supervised volunteers for providing technical support to presenters.
- Collaborated with other volunteers to keep presentations running successfully.