

Joey (Chu-Jen) Huang

Houston, TX 77007 | joey.h@uci.edu | 512-971-2910 | www.linkedin.com/in/chujenhuang

A learning scientist by training with 9+ years of research experience and expertise in learning and assessment design, educational technology designs and applications for both online and in-person learning. Aiming to apply **design-based research, mixed methods, learning and instructional theories** and leverage my experience to conduct research on learning in STEAM and partnership activities that bring communities together for educators, users, and designers.

EDUCATION

Ph.D. in Learning and Developmental Sciences, minor in Inquiry Methodology

School of Education, Indiana University Bloomington

Dissertation: *Studying Computational Thinking Through Collaborative Design Activities with Scratch for Middle School Students*

M.A. in Educational Psychology

The College of Education, The University of Texas at Austin

Thesis: *Facebook Use in College Students: Facing the Learning Motivation of Young Adults*

PROFESSIONAL EXPERIENCE

Postdoctoral Researcher, School of Information & Computer Sciences, University of California (UC) Irvine | 2020 – present

- Spearhead two NSF-funded projects (over \$5 million) that united cross-functional teams on: 1. Recrafting Computer Science: Advance computational learning to broaden STEM participation for underrepresented groups, especially women and people of color in CS, 2. Future of Work at the Human-Technology Frontier: Develop a physical-reality simulation platform and AI modules to connect human agents with robots and machines
- Conceptualize an augmented reality (AR) platform to pre-skill and up-skill the future manufacturing workforce by evaluating AI, AR, and VR designs for 20+ stakeholders in industry and education with mixed methods (collected and analyzed 100+ interviews)
- Design STEAM curriculum and open educational resources on IoT, AI, arts, and engineering designs for underrepresented youth in K-12 settings

Lead Graduate Researcher, School of Education, Indiana University Bloomington | 2017 – 2019

- Presided a research team to conduct an interdisciplinary project — Learning-Objective Based Design and Assessment for the Online Manufacturing Certificate Program, which leads to a machine learning evaluation beta system for online learning
- Improved learning outcomes and researched meaningful behavioral patterns by apply mixed methods to examine 930 professional engineers' learning outcomes and trajectories with learning analytics and visualization techniques
- Advanced online course content and learning objectives with MIT and Boeing Company on additive manufacturing and leaderships (courses were successfully launched on MITxPRO in 2018, over 1,600 people have registered by 2021)

Graduate Research Assistant, School of Education, Indiana University Bloomington | 2015 – 2017

- Co-developed telepresence robot and programmed its function with a research team in Informatics at IU
- Created STEM workshops to teach middle school students programming and concepts of robotics and engineering design
- Organized 10+ professional development workshops for K-12 teachers to incorporate robotics into the STEM curriculum

Lead Graduate Researcher, School of Education, Indiana University Bloomington | 2014 – 2017

- Analyzed 30+ hours of videos, interviews, and surveys to examine collaborative learning for citizen scientists
- Developed analytical and computational tools with R program to visualize the coding results of video data
- Led and published research papers on refereed conference proceedings (ICLS, CSCL) and a high-impact journal (CHB)

SKILLS

Statistical Methods: Multiple regression, Multivariate Analysis, Covariate Analysis, Correlation Analysis

Statistical Packages: R/R studio, SPSS, Mplus, SAS

Qualitative Analysis Softwares: MAXQDA, NVivo, ATLAS.ti, InqScribe

Qualitative Research: Interview, Focus Group, Observation, Secondary Data

Social Network Analysis & Visualization: Gephi, UCINET, R, Tableau

Programming: Python, HTML

Certificates: Additive Manufacturing for Innovative Design and Production, Teaching Chinese as a Foreign Language

RESEARCH GRANTS AWARDED

Supplemental Funding for Postdoctoral Researchers to Mitigate COVID-19 Impacts on Research Career Progression,

National Science Foundation (NSF) (\$250k) | 2022

Convergence Accelerator Phase II Research Grant, National Science Foundation (NSF) (\$5 million) | 2020

Ph.D. Research Grant, Ministry of Education, Taiwan (\$32,000) | 2014

Proffitt Fellowship, Indiana University Bloomington (\$42,000) | 2013

SELECTED PUBLICATIONS (REFEREED ARTICLES)

- **Huang, J.,** Parker, M. (2022). Developing computational thinking collaboratively: The nexus of computational practices within small groups. *Journal of Computer Science Education*. <https://doi.org/10.1080/08993408.2022.2039488>
- **Huang, J.,** Han, A., Sedas, M., Telfer-Radzat, K., & Peppler, K., (2022). Crafting paper circuits: Gendered materials for circuitry learning. In J. Oshima, T. Mochizuki, & Y. Hayashi (Eds.) *International Collaboration toward Educational Innovation for All: International Society of the Learning Sciences (ISLS) Annual Meeting 2022* (pp.1293-1296). Hiroshima, Japan.
- Villanueva, A., Liu, Z., Zhu, Z., Du, X., **Huang, J.,** Peppler, K., Ramani, K. (2021). RobotAR: An augmented reality compatible teleconsulting robotics toolkit for augmented makerspaces experiences. *The ACM CHI Conference on Human Factors in Computing Systems*.
- Peppler, K., **Huang, J.,** Richey, C. M. et al. (2020). Key principles for workforce upskilling via online learning: A learning analytics study of a professional course in additive manufacturing. <https://arxiv.org/abs/2008.06610>
- **Huang, J.** (2020). Exploring computational thinking practices through collaborative design activities. *Exploring, Testing and Extending our Understanding of Constructionism*.
- **Huang, J.** & Peppler, K. (2019). Studying computational thinking through collaborative design activities with Scratch. *A wide lens: Combining Embodied, Enactive, Extended, and Embedded Learning in Collaborative Settings: International Conference on Computer Supported Collaborative Learning (CSCL)*.

INVITED TALKS, PRESENTATIONS, & WORKSHOPS

Designing and Developing a Mixed Reality (XR) Platform for Learning and Workforce Training, UC Irvine | January, 2021
Ed Tech: Measuring Computational thinking Practices for 21st Century Literacies undergraduate-level course, School of Education, UC Irvine | February, 2020

Data Visualization in Education graduate-level course, Program of Learning Design and Technology, North Carolina State University, | November, 2019

Introduction to Informatics (honors course), School of Informatics, Indiana University Bloomington | October, 2018

Management Information Systems undergraduate-level course, School of Business, Indiana University Bloomington | Spring & Fall 2017-2018; Spring 2019

3D Printing and Design for Graduate Women in Technology (GWiT) | October, 2017

SELECTED TEACHING EXPERIENCE

New Course Designed for Graduate Students | 2020-2021

Arts, Making, and Engineering, School of Education, Department of Informatics, UC Irvine

- Designed and structured the course agenda, readings, and assignments regarding the construct of arts, making, & engineering
- Developed and led lab and classroom activities on IoT kits, e-textile, paper and tangible circuits

Undergraduate Classes (Teaching Evaluation Scores: 4.32/4.5 points) | 2016-2018

Educational Psychology of Elementary School Majors (Online & Face-to-Face), Department of Counseling and Educational Psychology, Indiana University Bloomington

- Designed online and face-to-face curriculums, modules, and assessments via Canvas to teach pre-service teachers educational psychology and learning theories
- Scaffolded students to apply learning theories and educational psychology constructs in teaching

Over 50 3D Printing & Design Workshops | 2015-2019

Center of Excellence for Women and Technology (CEW&T), Indiana University Bloomington

- Led a team to design and develop additive manufacturing training modules and workshop programs
- Taught 50+ additive manufacturing workshops to faculty, student, and staff at Indiana University and youth in K-12 after-school programs

SELECTED SERVICE/LEADERSHIP

Conference Committee and Representative of ILSSA: International Society of the Learning Sciences (ISLS) Annual Meeting 2021 (2020 – present)

Founding Officer (Membership & Outreach): International Learning Sciences Student Association (ILSSA) (2019 – present)

Conference Host & Committee: CEW&T Summit (2018–19), LSGSC (2017), IST Conference (2017)

Chair: CSCL (2017), AERA (2019)

SELECTED HONORS & AWARDS

Early career workshop, International Conference on Computers in Education | 2019

Provost's Travel Award for Women in Science, Indiana University Bloomington | 2018, 2019

Best Student Paper Award, American Educational Research Association (AERA), Media, Culture, and Learning SIG | 2016