Chengyuan Xu

Adobe Inc., San Jose, California
Four Eyes Lab, University of California, Santa Barbara
Email: chengyuanx@adobe.com
Web: cy-xu.github.io

RESEARCH AREA

Human-AI Collaboration, Interactive Machine Learning, Computer Vision, Augmented Reality

EDUCATION

2017–24 Ph.D. in Media Arts and Technology, University of California, Santa Barbara
Committee: Tobias Höllerer, Jennifer Jacobs, Marko Peljhan, Curtis McCully

2020–24 M.S. in Computer Science, University of California, Santa Barbara
Advisor: Tobias Höllerer

2008–12 B.A. in Journalism, Communication University of China

PUBLICATIONS

2024 **Xu, C.**, Kumaran, R., Stier, N., Yu, K., & Höllerer, T. "Multimodal 3D Fusion and In-Situ Learning for Spatially Aware AI." ***IEEE ISMAR 2024*** *oral presentation.*

2023 Zhu, J., Kumaran, R., **Xu, C.**, & Höllerer, T. "Free-form Conversation with Human and Symbolic Avatars in Mixed Reality." ***IEEE ISMAR 2023*** *oral presentation*.

2023 **Xu, C.**, Lien, K.C., & Höllerer, T. "Comparing Zealous and Restrained AI Recommendations in High-stakes Human-AI Collaboration." ***ACM CHI 2023*** *oral presentation*.

2022 **Xu, C.**, Dong, B., Stier, N., McCully, C., Howell, D. A., Sen, P., & Höllerer, T. "Interactive Segmentation and Visualization for Tiny Objects in Multi-megapixel Images." ***CVPR 2022*** *demo and proceedings*.

2022 **Xu, C.**, McCully, C., Dong, B., Howell, D. A., & Sen, P. "Cosmic-CoNN: A Cosmic Ray Detection Deep Learning Framework, Dataset, and Toolbox." ***240th American Astronomical Society meeting****, oral presentation.* ***The Astrophysical Journal****, Volume 942, Number 2.*

2021 Hiramatsu, D. et al., including **Xu, C.** "The electron capture origin of supernova 2018zd." ***Nature Astronomy****, cover story Volume 5, Issue 9.*

PROFESSIONAL EXPERIENCE

2023- **Adobe Inc.**
Research Engineer, Jul. 2024 – Now

- Conduct research to enhance Adobe's image and video generative AI models.
- Publish research findings through academic papers, patents, and new features in Adobe products.

Research Scientist/Engineer Intern, Summer Internship

- Improved the eye makeup model in Photoshop Express and released in iOS and Android products.
- Submitted a patent application for a "all-in-one" facial makeup model.

2022 **Appen Limited**
Computer Vision Intern, Dec. 2021 – Sept. 2022

- We proposed a human-in-the-loop, AI-assisted video annotation workflow that helped human annotators track faces 30% faster with better quality.
- We designed a large user study and investigated 3,466 person-hours of annotation work in "Comparing Zealous and Restrained AI Recommendations in High-stakes Human-AI Collaboration." The analysis revealed significant findings to guide future designs of human-AI collaboration systems in high-stakes tasks.

2021 **Benioff Ocean Science Laboratory**
Computer Vision Researcher, Summer Internship

- We developed a trash detection model and a dataset "BOI Baltimore Trash Wheel Computer Vision Model and Dataset" to identify 15 types of river waste. Our model was deployed on Mr. Trash Wheel in Baltimore to collect data and assist marine scientists in better understanding the types and sources of ocean-bound river waste.

2019 **Las Cumbres Observatory**
Imaging Intern, Summer Internship

- Our CR segmentation model developed in "Cosmic-ConNN: A Cosmic Ray Detection Deep Learning Framework, Dataset, and Toolbox" was deployed to process thousands of daily space observations from LCO's 20+ telescopes globally.

2018-24 **University of California, Santa Barbara**
Graduate Student Researcher

- Conducted research in computer vision and human-AI collaboration. The role involved leading original research projects, publishing academic papers, presenting at research venues, and collaborating with faculty and peers.

2015–16 BBC News, Multimedia Producer

2012–15 CNN International, Video Journalist

OTHER PROJECTS

2018-19 "Coherent Video Style Transfer." We propose a novel generative adversarial network (GAN) architecture to achieve spatially and temporally coherent video style transfers.

2018 motionLight. A playful interactive audio-visual installation inspired by Jim Campbell's low resolution artwork series.

2018 Top wildlife buyers and sellers in 2016. Flocking based interactive data visualization of wildlife trades in 2016.

SERVICE

2024 Reviewer, ACM CHI 2024, ACM IMX 2024, ACM VRST 2024, IEEE ISMAR 2024

2023 Reviewer, ACM CHI PLAY 2023, IEEE PacificVis 2024

2022 Reviewer, ACM CHI 2023

2021–22 Student Representative, Media Arts and Technology Program, UCSB.

2020–21 Peer Mentor, Women In Computer Science, WiCS Mentorship Program, UCSB.

ACADEMIC EXPERIENCE

2023- SIGCHI member, the ACM Special Interest Group on Computer-Human Interaction

2021 SDSC Cyberinfrastructure-Enabled Machine Learning Summer Institute

2018–23 Graduate Student Researcher, University of California, Santa Barbara

GRANTS AND AWARDS

2018-22 International Doctoral Recruitment Fellowship ($15,000 Annually).

2020 Mellichamp 21st Century Global Dynamics Graduate Research Fellowship ($7,500).

2018 Media Arts and Technology Grant ($2,500).

2018 MAT End of Year Show Grant ($750).

Updated October 2024