Xinrui Liu

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Education

- **Cornell University** Ithaca, NY, USA
  PhD in Computer Science *August 2023 - Current*
  - Adviser: Prof. Abe Davis.
  - Current Research Interests: human-computer interaction, XR/AR/VR, interactions for content creation
- **University of Wisconsin-Madison** Madison, WI, USA
  B.S. in Computer Science, Neuroscience, and Mathematics *August 2019 - May 2023*
  - GPA: 3.989/4.0.
- **The Affiliated High School of Peking University** Beijing, China
  High School Diploma *August 2016 - May 2019*

Research experience

- **Cornell University** Ithaca, NY, USA
  PhD Student *August 2023 - Current*
  - Researching VR/AR interaction, eye tracking, spatial audio, and applications of image-based rendering in content creation interactions.
- **University of Wisconsin-Madison** Madison, WI, USA
  Undergraduate Research Assistant *May 2021 - August 2023*
  - Supervisor: Prof. Ari Rosenberg and Dr. Byounghoon Kim
  - Helped in developing custom eye tracking system and analyzing eye tracking data for nonhuman primates based on Pupil Lab's wearable eye tracker.
  - Conducted research sessions involving a visual search task with autistic kids, built the pipeline to pre-process and filter eye tracking data, and analyzed eye tracking data.
- **University of Wisconsin-Madison** Madison, WI, USA
  Undergraduate Research Assistant *May 2021 - August 2023*
  - Supervisor: Prof. Matthew I. Banks and Prof. Barry Van Veen
  - Implemented the Sequential Multistate Multivariate Vector Autoregressive (SM-MVAR) clustering algorithm, a k-mean-like algorithm where the likelihood measure is the "distance metric," and MVAR model estimation is the "center re-estimation." Used SM-MVAR to study consciousness of human brain using brain electrophysiological data during sleep and anesthesia.

Publications

- **Xinrui Liu**, Longxiulin Deng, and Abe Davis. 2025. Hybrid Tours: A Clip-based System for Authoring Long-take Touring Shots. *ACM Transactions on Graphics (TOG)*, Volume 44, Issue 4, Article 36. https://doi.org/10.1145/3731423

Invited Talks and Presentations

- Oral presentation at SIGGRAPH'25 August 2025
  - Presented TOG paper "Hybrid Tours: A Clip-based System for Authoring Long-take Touring Shots"

Service

- Reviewed for computer science PhD admission at Cornell University. January 2026
- Reviewed for ACM Transaction on Graphics (TOG). December 2025
- Provided teaching evaluation letter for faculty review within the CS department at Cornell University. October 2025
- Reviewed for SIGGRAPH 2025 Poster Program. May 2025

Teaching experience

- **Cornell University** Ithaca, NY, USA
  Graduate Teaching Assistant *Multiple Semesters*
  - Spring 2026: CS3110 - Data Structures and Functional Programming, an advanced programming course on functional programming and data structure.
  - Fall 2025: CS4620 - Introduction to Computer Graphics, an undergrad-level computer graphics course.
  - Spring 2024: CS 1112 - Introduction to Computing: An Engineering and Science Perspective, an introductory Python course for non-CS major undergrads.
  - Fall 2023: CS2800 - Discrete Structures, a discrete mathematics course for CS-major undergrads.