Xinyu Liu, Ph.D.

Senior Staff Consultant

Dr. Xinyu Liu is a Senior Staff Consultant at Engineering Systems Inc. (Esi). He earned his Ph.D. degree in cognitive neuroscience from the University of Minnesota, Twin Cities. His area of expertise includes human visual perception and cognition, attention, visual working memory and human information processing. Dr. Liu's research involves investigating the plasticity of the human visual system and understanding the neural mechanisms of human visual perception under a dynamic perceptual environment.

Dr. Liu has conducted and participated in numerous accident investigations and failure analyses, including automotive accidents, industrial and occupational injuries, slip-trip-fall and other pedestrian-related incidents, analyses on the effectiveness of warning labels, and Standard Operating Procedures and other instructional materials. Additionally, he has extensive experience in designing and conducting human behavioral studies, both in-lab studies as well as usability testing in industry. At ESi, Dr. Liu works closely with human factors, biomechanics, automotive, and safety industries.

Dr. Liu is an active member of the Vision Science Society and has published numerous studies in peer-reviewed journals and presented at conference proceedings.

Education

PhD, Psychology/Cognitive Neuroscience, University of Minnesota, Twin Cities. 2022

MS, Psychology. University of Minnesota, Twin Cities. 2020

MA, Social Sciences. University of Chicago. 2016

BA, Psychology (Cum Laude). Clemson University. 2014

Languages

- English, Mandarin.

Positions Held

Engineering Systems Inc., Ann Arbor, Michigan

- Senior Staff Consultant, 2025 – Present

Contact Information

xliu@engsys.com

(734) 274-8334

ESi Ann Arbor

1174 Oak Valley Drive
Ann Arbor, MI 48108

Areas of Specialization

- Visual Perception and Action Accident Investigation
- Industrial and Occupational Injury Investigation
- Safety and Warning
- Usability Testing
- Experimental Design, and Data Modelling

Exponent Inc., Atlanta, GA

- Scientist, Human Factors, 2022 – 2024

Professional Affiliations/Honors

Vision Science Society

- Member

Human Factors and Ergonomics Society

- Member

Publications

"Higher-level meta-adaptation migrates visual distortions produced by lower-level adaptation," **X.Liu** and S.A. Engel, Psychological Science, Vol. 31, No. 6, pp. 354-662, 2020.

"Later visual areas can adapt to adapted input from earlier visual areas," **X.Liu,** J. Mesik, and S. Engel, Journal of Vision, Vol.18, No. 10, pp. 764-764, 2018.

"Flicker adaptation and neural transmission speed in the human MC pathway," **X.Liu,** X, Zhuang, and S. Shevell, Journal of Vision, Vol.16, No. 12, pp. 1225-1225, 2016.

Presentations

"Training on groups of similar faces decreases similarity both within and between groups," **X. Liu** and S.E. Engel, Vision Science Society Conference, Tampa, FL, 2021.