



XINYU LIU, Ph.D.
SENIOR STAFF CONSULTANT

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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, 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.

Areas of Specialization

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

Education

Ph.D., Psychology/Cognitive Neuroscience. University of Minnesota, Twin Cities. 2022
M.S., Psychology. University of Minnesota, Twin Cities. 2020
M.A., Social Sciences. University of Chicago. 2016
B.A., Psychology (Cum Laude). Clemson University. 2014

Professional Affiliations/Honors

Member, Vision Science Society
Member, Human Factors and Ergonomics Society

April 2025

Positions Held

Engineering Systems Inc., Ann Arbor, MI

Senior Staff Consultant, 2025 to Present

Exponent Inc., Atlanta, GA

Scientist, Human Factors, 2022-2024

Publications/Presentations

"Higher-level meta-adaptation mitigates visual distortions produced by lower-level adaptation", **Liu, X.**, & Engel, S. A. *Psychological Science*, 31(6), pp. 654-662. (2020)

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

"Later visual areas can adapt to adapted input from earlier visual areas." **Liu, X.**, Mesik, J., & Engel, S. (2018). *Journal of Vision*, 18(10), 764-764.

"Flicker adaptation and neural transmission speed in the human MC pathway." **Liu, X.**, Zhuang, X., & Shevell, S. (2016). *Journal of Vision*, 16(12), 1225-1225.