Exponent®
Engineering & Scientific Consulting

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Professional Profile

Dr. Luor specializes in human perception, auditory processing, speech comprehension, cognition, attention, and learning. He has extensive experience analyzing human behavior, including response time, detection accuracy, and decision-making processes. Dr. Luor applies his expertise to evaluate how human factors influence performance and usability in real-world environments, including incidents involving automobiles, pedestrians, motorcycles, bicycles/scooters, and tractor-trailers. Additionally, he has years of experience in experimental design, methodology, behavioral data collection, and quantitative analysis.

Dr. Luor received his Ph.D. in Cognitive Neuroscience from Carnegie Mellon University, where he investigated how learning patterns in the environment shape listening behavior and influence decision-making. He utilized and leveraged novel online data collection and psychophysics methodology to understand how learning and attention interact to enhance auditory processing across a variety of listening environments.

Prior to joining Exponent, Dr. Luor was a Postdoctoral Fellow at the University of Texas at Austin, where he examined how listeners direct attention to learn and adapt to different acoustic features, with important implications for auditory perception and second language learning. He also served as a Research & Measurement Science Intern at Educational Testing Service (ETS), focusing on how users learn and perform in computer-based tasks. In addition, Dr. Luor worked as a Neuroimaging Technician at Washington University in St. Louis, where he examined how aging impacts speech comprehension in clinical populations.

Academic Credentials & Professional Honors

Ph.D., Cognitive Neuroscience, Carnegie Mellon University, 2024

M.S., Psychology, Carnegie Mellon University, 2023

B.S., Neuroscience, Brandeis University, 2017

Behavioral Brain T32 Fellowship, National Institute of Health, 2021-2023

Academic Appointments

Postdoctoral Fellow, Center for Perceptual Systems, University of Texas at Austin, 2024-2025

Graduate Researcher, Psychology, Carnegie Mellon University, 2020-2024

Graduate Teaching Assistant, Psychology, Carnegie Mellon University, 2022-2023

Publications

Luthra S*, Luor A* (joint first-author), Tierney AT, Dick F, Holt LL. Statistical learning dynamically shapes auditory perception. npj Science of Learning 2025.

McClannahan KS, Mainardi E, Luor A, Chiu Y-F, Sommers MS, Peelle JE. Spoken word recognition in adults with mild dementia symptoms. Journal of Alzheimer's Disease 2022.

Jones MS, Zhu Z, Bajracharya A, Luor A, Peelle JE. A multi-dataset evaluation of frame censoring for motion correction in task-based fMRI. Aperture Neuro 2022; 2.

Presentations

Dick F, Luor A, Luthra S, Holt L. Statistical learning across task-irrelevant acoustic dimensions. Poster Presentation, Advances Perspectives of Auditory Neuroscience, Washington D.C., 2023.

Luor A*, Luthra S*, Shinn-Cunningham B, Tierney A, Dick F, Holt L. Statistical regularities of task-irrelevant dimensions impact auditory decisions. Poster Presentation, Acoustical Society of America, Nashville, TN, 2022.

Luor A, Dick F, Shinn-Cunningham B, Holt L. Statistical learning in guiding auditory attention. Poster Presentation, Cognitive Science Society, Toronto, Canada, 2022.

Luor A*, Luthra S*, Shinn-Cunningham B, Tierney A, Dick F, Holt L. The global and transitional probability of task-irrelevant dimensions impact behavior. Poster Presentation, TEX, Trieste, Italy, 2020.

Mainardi A, Luor A, McClannahan K, Chiu Y, Peelle J, Sommers M. Cognitive control in speech perception: A comparison between normal aging and adults with mild cognitive impairment. Poster Presentation, Cognitive Aging Conference, Atlanta, GA, 2020.

Atagi E, Luor A, Bushmakin M, Wingfield A. Effect of adult aging on pupillary response to auditory stimuli of varying levels of complexity. Poster Presentation, Acoustical Society of America, Boston, MA, 2017.