



Department of Psychology
The University of Hong Kong

香港大學心理學系

Departmental Seminar (Via Zoom)

The Influence of Event Structure on Optimal Memory Policies

11:00 a.m. – 12:00 p.m. | October 11, 2023 (Wednesday)



Dr. Qihong LU

Postdoctoral fellow

Zuckerman Mind Brain Behavior Institute

Columbia University

Abstract

Recent human behavioral and neuroimaging results suggest that people are selective in when they encode and retrieve episodic memories. To explain these findings, we trained a memory-augmented neural network to use its episodic memory to support prediction of upcoming states in an environment where past situations sometimes reoccur. We found that the network learned to retrieve selectively as a function of several factors, including its uncertainty about the upcoming state. Additionally, we found that selectively encoding episodic memories at the end of an event (but not mid-event) led to better subsequent prediction performance. In all of these cases, the benefits of selective retrieval and encoding can be explained in terms of reducing the risk of retrieving irrelevant memories. Overall, these modeling results provide a resource-rational account of why episodic retrieval and encoding should be selective and lead to several testable predictions.

About the Speaker

Qihong Lu is interested in computational models of context and episodic memory. He recently received the Alan Kanzer Postdoctoral Fellowship from the Zuckerman Mind Brain Behavior Institute at Columbia University to support his postdoc with Stefano Fusi and Daphna Shohamy. In 2023, he completed his Ph.D. in Cognitive Psychology at Princeton University with Ken Norman and Uri Hasson. Prior to his doctoral studies, he earned his undergraduate degrees in Mathematics and Psychology at the University of Wisconsin-Madison.

Zoom Meeting

<https://hku.zoom.us/j/3951550048?pwd=SncvL3RYakEycUtpL29vdDJEedlEwdz09>

Meeting ID: 395 155 0048 | Password: psyc



~All are Welcome~

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