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Talk Title: Active reconstruction of perceptual present through serial dependence

Abstract:

We live in a world with spatially and temporally organized structures constrained by various physical laws. By leveraging these structures as prior information, our visual system is able to compensate for ever-changing noisy sensory input and optimally estimate the current state of the world. The serial dependence is a manifestation of how our perception relies on temporal structure of events: the perception of current stimulus is biased toward previously seen stimuli. This phenomenon suggests that the brain may (mis)interpret a series of similar events occurring in succession as continuous events originating from the same source. In this talk, I will introduce our recent research on serial dependence and its individual differences, and discuss how each individual could acquire and utilize statistical information inherent in the environment.

Biographical information:

Dr. Yuki Murai currently serves as a Tenure-track Researcher at the Center for Information and Neural Networks (CiNet), National Institute of Information and Communications Technology (NICT). He received his PhD from the University of Tokyo in 2017, then joined the Department of Psychology at University of California, Berkeley as a JSPS Overseas Research Fellow (17-19) and a JSPS Postdoctoral Fellow (19-22). His research interest mainly focuses on space and time in perception and action.