

Brown Bag Lunchtime Seminar
Theme: Cognition and Neuroscience

Emotion-related Perceptual Decision-Making Using Hidden Markov Model-based Eye-Movement Analysis

12:30 p.m. – 1:30 p.m. | January 22, 2021 (Friday)



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Abstract

Being able to accurately judge positive versus negative stimuli in our environment often requires us to extract emotion-related evidence from these stimuli before forming a categorical perceptual decision. Previous work on non-emotion-related perceptual decision making (e.g. shape or color) has demonstrated that not all evidence contributes equally to the decision. Instead, extreme or outlying evidence is down-weighted (i.e. robust averaging). However, it remains unknown how humans integrate emotion-related evidence to make perceptual decisions regarding positive and negative stimuli. This study aims to understand the process by which evidence is integrated from multiple sources to form emotion-related perceptual decisions. Hidden Markov Model (EMHMM) will be used to estimate eye-movement patterns when subjects view an array of facial expressions on a fearful-to-happy spectrum, before making a fearful versus happy decision. Behavioral decisions and eye-movement patterns will be investigated to inform the hidden decision process. Using computational modeling of emotion-related decision-making processes, this study will contribute to uncovering the processes leading to biased emotional judgments and shed light on the pathology of anxiety disorders, where biased weighting of negative emotions may lead to hypervigilance.

Keywords: Emotion perception, decision making, computational modeling, eye tracking

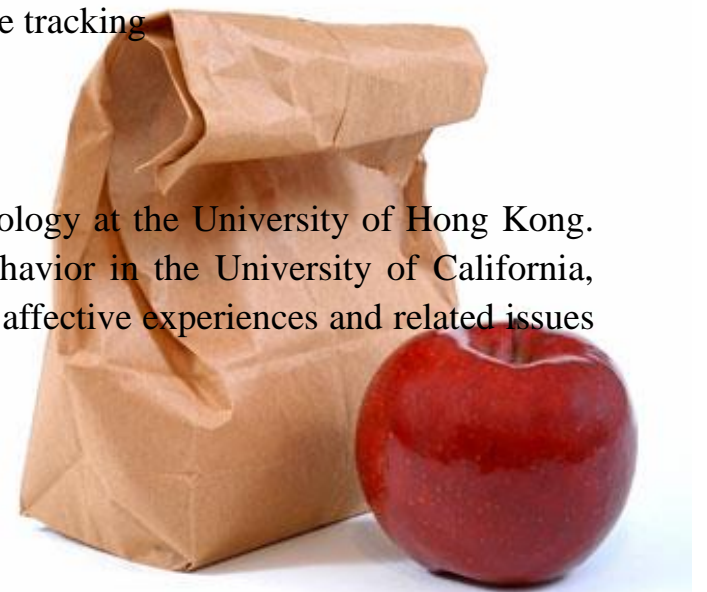
About the speaker

Ms. Hilary NGAI is a second-year PhD student in the Department of Psychology at the University of Hong Kong. She obtained her Bachelor of Science in Neurobiology, Physiology and Behavior in the University of California, Davis. Her research interests include decision-making, neural mechanisms of affective experiences and related issues in internalizing disorders.

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~All are Welcome~

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