Department of Psychology
The University of Hong Kong
香港大學心理學系

Departmental Seminar

Understanding Human Emotion: Progresses and Challenges in EEG-based Affective Computing

4:00 p.m. – 5:00p.m. | August 22, 2024 (Thursday)

CPD-LG.59, The Jockey Club Tower | Centennial Campus | The University of Hong Kong

Dr. Dan Zhang

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Abstract

The quest for machines to comprehend human emotions is an intriguing and challenging endeavor, given the complexity and subtlety of emotional expression. In this talk, I will provide a comprehensive overview of the current state of EEG-based affective BCIs from three perspectives: theoretical frameworks, decoding algorithms, and application directions. The section on theoretical frameworks will delve into the latest advancements driven by psychological theories, data-driven approaches, and application-specific considerations. The decoding algorithms section will focus on addressing the issue of individual differences in emotional responses, drawing from machine learning techniques as well as insights from psychology and neuroscience. Furthermore, the applications section will explore research directions that leverage the unique characteristics of affective computing models, such as human-computer interaction, user experience enhancement, and the measurement of individual differences. By synthesizing insights from these three domains, this report aims to shed light on the progress made and the challenges that lie ahead in the field of EEG-based affective computing, highlighting the potential for these technologies to revolutionize our understanding and interaction with human emotions.

About the Speaker

Dan Zhang is a tenured associate professor at the Department of Psychological and Cognitive Sciences, Tsinghua University. He received his Bachelor degree in Automation in 2005 and his Ph.D. degree in Biomedical Engineering in 2011, both from Tsinghua University, Beijing, China. His research interests include brain-computer interfaces, affective computing, learning science, etc. He has published over 50 papers in journals such as IEEE Trans. Affective Computing, NeuroImage, Cerebral Cortex, etc., with over 2600 total citations. He is the associate editor of the IEEE Trans. Affective Computing, and editorial board members of the Journal of Neuroscience Methods, Cognitive Neurodynamics, and Frontiers in Human Neuroscience, etc.

Zoom Meeting (For participants who couldn't attend the Seminar in person)

https://hku.zoom.us/j/6985555998?pwd=V05yTGJWNTlzazd2OFZ0Q3FReHVkdz09
Meeting ID: 698 555 5998 | Password: Psyc

~All are Welcome~

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