統計科學研究所
INSTITUTE OF
STATISTICAL SCIENCE

統計所學術演講　中研院統計所

學　術　演　講

講　題：On the 2nd AI Wave: Toward Interpretable, Reliable, and Sustainable AI

講　者：Prof. Jay Kuo (郭宗杰教授)
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時　間：2023年7月19日(星期三)，11:00-12:00

地　點：統計所B1演講廳

Abstract

Rapid advances in artificial intelligence (AI) in the last decade have been primarily attributed to the wide applications of deep learning (DL) technologies. I view these advances as the first AI wave. There are concerns with the first AI wave. DL solutions are a black box (i.e., not interpretable) and vulnerable to adversarial attacks (i.e., unreliable). Besides, the high carbon footprint yielded by large DL networks is a threat to our environment (i.e., not sustainable). Many researchers are looking for an alternative solution that is interpretable, reliable, and sustainable. This is expected to be the second AI wave. To this end, I have conducted research on green learning (GL) since 2015. GL was inspired by DL. Low carbon footprints, small model sizes, low computational complexity, and mathematical transparency characterize GL. It offers energy-effective solutions in cloud centers and mobile/edge devices. It has three main modules: 1) unsupervised representation learning, 2) supervised feature learning, and 3) decision learning. GL has been successfully applied to a few applications. I will use deepfake video detection and blind image/video quality assessment as two examples to demonstrate the effectiveness and efficiency of the GL solutions.

※ 實體與線上視訊同步進行。
※ 茶　會：10：40開始。