



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：Zero-Shot Learning for Novel Attribute Synthesis?

演講人：邱維辰 教授(國立陽明交通大學資訊工程學系)

時間：2022年4月11日(星期一)，10:30-12:00

地點：中央研究院統計科學研究所 B1F 演講廳

## Abstract

Most of the existing algorithms for zero-shot classification problems rely on the attribute-based semantic relations among categories to realize the classification of novel categories without observing any of their instances. However, training such models still requires attribute labeling for each class (or even instance) in the training dataset, which is also expensive. To this end, we bring up a new problem scenario: "Can we derive zero-shot learning for novel attribute detectors and use them to automatically annotate the dataset for labeling efficiency?" Given only a small set of detectors that are learned to recognize some manually annotated attributes (i.e., the seen attributes), we aim to synthesize the detectors of novel attributes in a zero-shot learning manner. To be specific, our method, Zero-Shot Learning for Attributes (ZSLA), which is the first of its kind to the best of our knowledge, tackles this new research problem by applying the set operations to first decompose the seen attributes into their basic attributes and then recombine these basic attributes into the novel ones. Extensive experiments are conducted to verify the capacity of our synthesized detectors for accurately capturing the semantics of the novel attributes and show their superior performance on detection and localization compared to other baseline approaches.

※ 茶會：上午10:10開始

※ 中文演講，實體與線上視訊同步進行

