



統計科學研究所

INSTITUTE OF
STATISTICAL SCIENCE



S.E.M.I.N.A.R.



S.T.A.T.I.S.

Seminar

Title : Zero-Shot Learning for Novel Attribute Synthesis?

Speaker : Prof. Wei-Chen Chiu (Department of Computer Science,
National Chiao Tung University)

Time : 10:30 AM~12:00 PM, Monday, April 11, 2022

Place : Auditorium, B1F, Institute of Statistical Science,
Academia Sinica



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.

※ Tea reception starts at 10:10 AM.

※ Lecture in Mandarin. Online live streaming through Microsoft Teams will be available.