



THE WEIZMANN INSTITUTE OF SCIENCE
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Vision and Robotics Seminar

on Thursday, Dec 17, 2020
at 12:15

<https://weizmann.zoom.us/j/94138183037?pwd=amZIRXgzSElQaXozL0UxdIFCRmJuQT09>

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A causal view of compositional zero-shot recognition

Abstract:

People easily recognize new visual categories that are new combinations of known components. This compositional generalization capacity is critical for learning in real-world domains like vision and language because the long tail of new combinations dominates the distribution. Unfortunately, learning systems struggle with compositional generalization because they often build on features that are correlated with class labels even if they are not "essential" for the class. This leads to consistent misclassification of samples from a new distribution, like new combinations of known components.

In this talk I will present our work on compositional zero-shot recognition: I will describe a causal approach that asks "which intervention caused the image?"; A probabilistic approach using semantic soft $\hat{\text{and-or}}$ side-information; And last, an approach that is simultaneously effective for both many-shot and zero-shot classes.

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