

CIDSE Invited Talk with Vincent Ordóñez-Román

FRONTIER TOPICS in VISION and LANGUAGE

Compositional Representations for Visual Recognition

Wednesday, February 3, 2021

4:30 p.m.

Zoom <https://asu.zoom.us/j/89817732811>

Abstract

Compositionality is the ability for a model to recognize a concept based on its parts or constituents. This ability is essential to use language effectively as there exists a very large combination of plausible objects, attributes, and actions in the world. We posit that visual recognition models should be trained under these considerations.

Furthermore, we argue that such property would enable models that are more robust, can be trained with fewer samples, and should mitigate the impact of spurious correlations that could introduce and amplify societal biases. This talk will expand on this idea and present examples of our current and ongoing work, among them: (1) Text2Scene, a model for text-to-image composition, (2) Drill-down an interactive instance-aware image retrieval system, and (3) Genderless, an adversarial filtering module useful for disentangling and visualizing potentially spurious features correlated with an orthogonal task.

For more information, please visit our group's website: <https://vislang.ai>



Bio

Vicente Ordóñez-Román is a tenure-track Assistant Professor in the Department of Computer Science at the University of Virginia. His research interests lie at the intersection of computer vision, natural language processing and machine learning. His focus is in building efficient visual recognition models that can perform tasks that leverage both images and text. He is a recipient of a Best Paper Award at the conference on Empirical Methods in Natural Language Processing (EMNLP) 2017 and the Best Paper Award -- Marr Prize at the International Conference on Computer Vision (ICCV) 2013, an IBM Faculty Award, a Google Faculty Research Award, and a Facebook Research Award. Vicente obtained his PhD in Computer Science at the University of North Carolina at Chapel Hill in 2015, an MS at Stony Brook University, and an engineering degree at the Escuela Superior Politécnica del Litoral in Ecuador. He has also been Visiting Fellow at the Allen Institute for Artificial Intelligence and a Visiting Professor at Adobe Research.