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# Spring 2023 Colloquium

## Department of Computer and Information Sciences

## *Towards Reliable Semantic Vision*


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**Tuesday, April 4, 2PM**
**Room: SERC 306**


**Abstract:** Models that learn from data are widely and rapidly being deployed today for real-world use, but they suffer from unforeseen failures that limit their reliability. In this talk, I will describe my work towards building reliable systems that are robust to these failures. First, I will show how data transformations can be discovered during training to improve the robustness of image classifiers to various types of distribution shift. Second, I will discuss several intriguing failure models of multimodal learning from images and text, and show how training paradigms guided by the knowledge of logic and linguistics can mitigate these failures. Finally, I will talk about augmenting semantic vision systems with reasoning capabilities, to make them grounded in the physical world and in commonsense in order to enable reliable communication and collaboration with humans.


**Bio:** Tejas Gokhale is a Ph.D. candidate at Arizona State University, co-advised by Yezhou Yang and Chitta Baral. He received his M.S. from Carnegie Mellon University in 2017. His research is broadly in the areas of computer vision, natural language processing, and machine learning, with a focus on building robust and reliable machine learning systems. He is particularly interested in semantic vision systems that can learn from human language and reason about the visual world. He is a recipient of the ASU Engineering Graduate Fellowship, SCAI Doctoral Fellowship, GPSA Outstanding Mentor Award, and top reviewer awards at ICLR and NeurIPS, and is the lead organizer of the O-DRUM workshop at CVPR.