



## Suguman Bansal

Monday – March 7, 2022  
4:00 p.m.

Zoom Presentation

**Abstract:** *Policy synthesis* or algorithms to design policies for computational systems is one of the fundamental problems in computer science. Standing on the shoulders of simplified yet concise *task-specification* using high-level logical specification languages, this talk will cover synthesis algorithms using two contrasting approaches. First, the classical logic-based approach of reactive synthesis; Second, the modern learning-based approach of reinforcement learning. This talk will cover our scalable and efficient state-of-the-art algorithms for synthesis from high-level specifications using both these approaches, and investigate whether formal guarantees are possible. We will conclude with a forward-looking view of these contributions to trustworthy AI.

**Bio:** Suguman Bansal is an NSF/CRA Computing Innovation Postdoctoral Fellow at the University of Pennsylvania, mentored by Prof. Rajeev Alur. Her primary area of research is Formal Methods and Programming Language, and her secondary area of research is Artificial Intelligence.

She is the recipient of the 2020 NSF CI Fellowship and has been named a 2021 MIT EECS Rising Star. Her research has appeared at venues in formal methods and programming languages (CAV, POPL, TACAS), and artificial intelligence and machine learning (AAAI, NeurIPS). She completed her Ph.D. in 2020, advised by Prof. Moshe Y. Vardi, from Rice University. She received B.S. with Honors in 2014 from Chennai Mathematical Institute