**Title:**  Human Allied Probabilistic Learning

**Abstract:**Historically, Artificial Intelligence has taken a symbolic route for representing and reasoning about objects at a higher-level or a statistical route for learning complex models from large data. To achieve true AI, it is necessary to make these different paths meet and enable seamless human interaction. First, I briefly will introduce learning from rich, structured, complex and noisy data. Next, I will present the recent progress that allows for more reasonable human interaction where the human input is taken as “advice” and the learning algorithm combines this advice with data. The advice can be in the form of qualitative influences, preferences over labels/actions, privileged information obtained during training or simple precision-recall trade-off. Finally, I will outline our recent work on "closing-the-loop" where information is solicited from humans as needed that allows for seamless interactions with the human expert. While I will discuss these methods primarily in the context of probabilistic and relational learning, I will also present our results on reinforcement learning and inverse reinforcement learning.  
  
**Biography:** Dr. Sriraam Natarajan is an Associate Professor and the Director for Center for ML at the Department of Computer Science at University of Texas Dallas. He was previously an Associate Professor and earlier an Assistant Professor at Indiana University, Wake Forest School of Medicine, a post-doctoral research associate at University of Wisconsin-Madison and had graduated with his PhD from Oregon State University. His research interests lie in the field of Artificial Intelligence, with emphasis on Machine Learning, Statistical Relational Learning and AI, Reinforcement Learning, Graphical Models and Biomedical Applications. He has received the Young Investigator award from US Army Research Office, Amazon Faculty Research Award, Intel Faculty Award, XEROX Faculty Award, Verisk Faculty Award and the IU trustees Teaching Award from Indiana University. He is the program co-chair of SDM 2020 and ACM CoDS-COMAD 2020 conferences. He is the specialty chief editor of Frontiers in ML and AI journal, an editorial board member of MLJ, JAIR and DAMI journals and is the electronics publishing editor of JAIR.