

Department of Data Science  
Mehta Family School of  
Data Science & Artificial Intelligence



IIT PALAKKAD

# RESEARCH TALK

## AI-in-the-Loop for Maternal and Pediatric Health

### SPEAKER

Prof. Sriraam Natarajan

Professor and Director of the Center for  
Machine Learning in the Department of  
Computer Science at the University of Texas  
at Dallas



06 May, 2026  
At 03:00 Pm  
Venue: A01-002



# AI-in-the-Loop for Maternal and Pediatric Health

**Abstract:** Deploying AI in high-stakes clinical settings demands more than predictive accuracy — it demands interpretability, trustworthiness, and meaningful collaboration between clinicians and algorithms. In this talk, I present our lab's work at the intersection of human-allied AI and healthcare, focusing on two clinical domains: adverse pregnancy outcomes and pediatric critical care. In the maternal health domain, we develop probabilistic and relational learning methods to predict pre-term birth, preeclampsia, gestational diabetes, and hypertension across diverse patient populations. Our models extract qualitative, clinician-verifiable rules from learned causal structures, enabling clinicians to interrogate and refine model knowledge rather than treat predictions as black boxes. In pediatric critical care, we address decision support for patients on extracorporeal membrane oxygenation (ECMO), where timely intervention is critical. We present causal Bayesian network models — guided by both structured EHR data and large language model-assisted knowledge — to predict neurological injury and cardiac events.

Across both domains, our core message is that AI should function as a collaborative partner to clinical experts, not a replacement — augmenting human judgment while remaining transparent and correctable



**Biography of the Speaker:** Sriraam Natarajan is a Professor and Director of the Center for Machine Learning in the Department of Computer Science at the University of Texas at Dallas. He is an AAAI Fellow, hessian.AI Fellow, and WSAI Distinguished Visiting Chair at IIT Madras. His research spans machine learning, statistical relational AI, reinforcement learning, graphical models, and biomedical applications. He has received multiple honors including the US Army Research Office Young Investigator Award, the President's Award for Excellence in Graduate Teaching, multiple best paper awards, and several industry recognitions. He served as Program Co-Chair of AAAI 2024, SDM 2020, and ACM CoDS-COMAD 2020. He is an Associate Editor of the Machine Learning Journal, JAIR, and DAMI, an elected member of the AAAI Executive Council, and Secretary-Treasurer Elect of IJCAI.

