



**ICON Weekly Seminar:**  
**EHSAN MORADI-PARI**  
**(HONDA RESEARCH INSTITUTE)**

**Mastering Human-AI Teamwork:  
Dynamic Role Assignment and Knowledge Representation  
for Adaptive Multi-agent Cooperation**

**Time:** Oct. 18, Friday, 3-4 pm Eastern Time

**Location:** MSEE 112

**Zoom Link:** <https://purdue-edu.zoom.us/j/98798335169>

**Free coffee and snacks will be provided!** 

## ABSTRACT

Teamwork presents the challenge of designing agents capable of seamlessly collaborating with others, even in the absence of prior coordination or established protocols. Effective teamwork relies on key concepts such as decentralization, role assignment, adaptability, and ad-hoc cooperation. When bringing humans into the fold, it becomes crucial not only to adapt AI systems to human behaviors and preferences but also to implement communication mechanisms that ensure team knowledge is conveyed in a manner easily understood by humans. The creation of cooperative AI agents also involves recognizing the human sense of agency, making it necessary for agents to adjust dynamically to human teammates. In this talk, we will introduce our view of teamwork, with a focus on role assignment, human-interpretable knowledge representation, and decentralized decision-making. These elements are essential for fully realizing the potential of human-AI teaming and ensuring that both humans and AI agents can effectively collaborate toward shared goals.

## SPEAKER

Ehsan Moradi-Pari, Ph.D. is a division director, and Network Intelligence chief scientist at Honda Research Institute USA, Inc. in Ann Arbor, Michigan. His research centers on cooperative AI and human-AI teamwork. Dr. Moradi-Pari serves as Honda's lead and representative for pre-competitive active safety research conducted at Crash Avoidance Metrics Partnership (CAMP) and the 5G Automotive Association (5GAA). He has spearheaded Honda's efforts and preparations to accelerate connected and automated vehicle deployment in the United States, including the design and deployment of the first-of-its-kind smart intersection concept in Marysville, Ohio and 5G V2X safety and mobility applications for connected and automated vehicles at the University of Michigan Mcity. In addition to his role at Honda, Dr. Moradi-Pari serves on the University of Michigan Center for Connected and Automated Transportation (CCAT) Technology Advisory Board. His work on human-AI teaming, and multi-agent systems, including connected and automated vehicles, and modeling and analysis of intelligent systems has been published in several international journals, conference proceedings, and book chapters. Dr. Moradi-Pari received his doctorate degree from West Virginia University and Master of Science from Sharif University of Technology.

