h 15:30, 28th May 2024, Room Consiliare;   Organizer: prof. I. Serina

AI Planning for Human Goal Recognition and Visual Reasoning

Abstract: Goal recognition is a fundamental cognitive process that enables individuals to infer intentions based on available cues. Current goal recognition algorithms often take only observed actions as input, but in this talk, I'll present a Bayesian framework to explore the role of actions, timing, and goal solvability in goal recognition. This framework provides new insights into human goal recognition and takes a step towards more human-like AI models, fundamental for human-computer interaction. In the second part of the talk, I'll present how planning can be used over the challenging Abstract Reasoning Corpus (ARC), a problem easily solved by humans but highly challenging for both Machine Learning and planning approaches. Both topics will be presented at a high level suited to understanding the core ideas, results and future research opportunities.

Prof. Nir Lipovetzky University of Melbourne

Short Bio: Nir Lipovetzky is an Associate Professor in the School of Computing and Information Systems at The University of Melbourne. His interests span across research areas in AI planning, search, learning, verification, and intention recognition with a special focus on how to introduce novel approaches to the problem of inference in sequential decision problems. He's also interested in building bridges with other research areas, such as autonomous systems for agriculture and computational sustainability problems. He is developing tools to transfer technology from research to industry and education. He maintains the Lightweight Automated Planning ToolKiT (LAPKT) and Planning as a Service (PaaS), aimed to make your life easier if your purpose is to create, use or extend basic to advanced Automated Planners; Planimation, aimed to visualise solutions using declarative programming; and planning.domains, a suite of tools for teaching AI planning. His contributions were recognized through best-paper / best-student-paper /dissertation / system-demonstration / best-planners awards from international conferences such as ICAPS/AAMAS and the Early Career spotlight at the International Joint Conference on Artificial Intelligence (IJCAI-2021).