CDMS Research Seminar

AI to empower human collectives

Thursday, 19th August 2021, 5:00pm

Zoom link:

https://uws.zoom.us/j/83486066311?pwd=bm9KSjdYTEc4eG1NKzlvRE1kaFRkUT09

(complete Zoom invitation in the next page)

Speaker: Prof. Dr. Juan A. Rodríguez-Aguilar, IIIA-CSIC, Spain.

Abstract: In this talk we will focus on two actual-world problems that require the application of Artificial Intelligence to empower human collectives and ultimately achieve collective intelligence. First, we will describe a shared mobility problem, the so-called peer-to-peer ridesharing problem, which aims at having citizens share cars. Second, we will focus on fostering active learning in the classroom by putting together students to learn together in teams. Interestingly, both problems can be cast as hard, large-scale combinatorial optimisation problems. During the talk I will describe the novel algorithms that we have designed and implemented to solve both actual-world problems, even considering real time constraints. Furthermore, we will report on the evaluations conducted for both algorithms considering actual-world data. Finally, depending on time constraints, we will demo the software apps that we have built for shared mobility and education.

Bio: Dr. Juan A. Rodríguez-Aguilar is a Research Professor (Full Professor) at the Artificial Intelligence Research Institute (IIIA) of the Spanish National Research Council (CSIC), where he leads research on "AI for Social Good". He works on the foundations of team formation, collective decision making and multi-agent reinforcement learning, and explores their applicability to shared mobility, education, e-democracy, and ethics.

He received an MSc in Artificial Intelligence (1998) and a PhD in Computer Science (2001) from the Autonomous University of Barcelona. In 1999, he joined as a researcher the Sloan School of Management at the Massachusetts Institute of Technology (MIT) to do research on electronic markets. Between 2001 and 2003 he worked as a researcher for iSOCO S.A., leading the development of commercial products based on Artificial Intelligence techniques. In 2003 he became a Ramón y Cajal fellow to join IIIA-CSIC, and in 2005 he became permanent scientist.

He has published two hundred cdnd fifty papers in specialized scientific journals, conferences and workshops. According to Google Scholar, his H-index is 39 and his publications total more than 6700 citations. He has been a Fellow of the European Association for Artificial Intelligence since 2013. He received the prize for the most cited article of the Engineering Application of Artificial

Intelligence Journal during the period 2005-2010, and the prize for the Best Agent Application of the 2003 Agentcities International Agent Technology Competition.

He has acted as PI and participated in multiple research projects funded by the European Commission and the Spanish Government. He is an associate editor of the Artificial Intelligence Journal, the Journal of Artificial Intelligence Research, the Knowledge Engineering Review journal and Autonomous Agents and Multiagent Systems. He has served in the organisation of top AI international conferences (e.g. IJCAI, ECAI, AAMAS, AAAI) with multiple roles (Area Chair, Workshops chair, SPC). He regularly serves as an expert for several international research funding agencies (e.g. Royal Society, EPSRC, Portuguese FCT, Spanish MINECO), including the EC (Eurostars, H2020, EIC Pathfinder).

For details about CDMS Research Seminars, please contact Dr Rodrigo Calheiros (r.calheiros@westernsydney.edu.au)

Rodrigo Calheiros is inviting you to a scheduled Zoom meeting.

Topic: CDMS Research Seminar: AI to empower human collectives
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