Working Group on Multi-Agent Systems (MAS)
Orlando, Florida, 12:00 PM - 01:00 PM, 17 July 2023
Online (participation link: https://videoconf-colibri.zoom.us/j/98613484754?pwd=KzFOUVk1V2l4ZjJBUU84d2JZK3JaUT09)

The meeting started at 12:00 PM with the following Agenda:

1. Welcome and introduction
2. Approval of the minutes of the 2022 Denver meeting
3. WG Activities in the past year
4. Future activities roadmap and plan
5. Any Other Business
6. Adjournment

1. Welcome and introduction

The Chair welcomed everyone present in the meeting and each attendee introduced him/herself. The meeting was held in hybrid format and has been attended by 29 people fully or partially. 19 people have attended in person and 7 virtually via zoom.

2. Approval of the minutes of the 2022 meeting in Denver

The minutes were approved unanimously

3. WG Activities in the past year

Two panels at PESGM 2023
  i.   Multi-agent decision support in local electricity markets
         Tuesday, July 18 3:00 PM- 5:00 PM
         Celebration 5
         Panel chair
         - Tiago Pinto, UTAD
         - Zita Vale, ISEP/IPP
         Speakers
         - Ibrahim Krad, EPRI, Practical frameworks for DER participation in local and wholesale markets
         - Koen Kok, TU/e Eindhoven, Agents in the Field: A Survey of Transactive Energy Practices

- Bilal Ahmad Bhatti, PNNL, Impacts of Energy Flexibility in Transactive Energy Systems with Large Scale Renewable Generation
- Steffen Ziegler, Eversource Energy, Operational Envelope Applications for DER Market Participation

    ii.   The synergy of multi-agent systems and machine learning in power system applications
Wednesday, July 19 3:00 PM- 5:00 PM
Windermere Y
<u>Panel chair</u>
- Tiago Pinto, UTAD
- Javad Mohammadi, UT Austin

<u>Speakers</u>
- Sai Pushpak Nandanoori, PNNL, Distributed Geometric Koopman Operator Learning for Sparse Networks: Application to Power Systems
- Lorenzo Bottaccioli, Polytechnic of Torino, Social aspects of multi-agent systems with learning capabilities
- Javad Mohammadi, UT Austin, Multi-agent Sensing and Decision Making: From Smart Buildings to Electric Infrastructure
- Kaveh Aflaki, IEMS Solution Ltd, Multi-agent distributed OPF software for large power networks with numerous DER, DG and DR assets
- Wenlei Bai, Oracle Corporation, A Self-adaptive Collaborative Differential Evolutionary Algorithm for solving Large-Scale Energy Resource Management problems in Smart Grids

The WG website has been updated (https://site.ieee.org/pes-mas/)

The joint review paper that is being developed by the WG members has been discussed, considering the current status and next steps to be performed.

A file has been shared and updated by the WG members comprising a brainstorm on core areas to be addressed by the WG. The contents of this file and its update during the past year have been discussed.

4. Future activities roadmap and plan

The need for the submission of papers related to the WG topics for IEEE PES GM 2024 has been discussed.

Several topics for panel proposals for PES-GM 2024 have been discussed, and will be elaborated to be submitted to ISS, namely:
-- MAS for techno-economic performance of future low inertia multi-energy systems
-- Agents in the Field: A Survey of Transactive Energy Practices
-- Industrial applications of multi-agent systems

Foreseen activities in other IEEE conferences have been discussed.

Other activities discussed during the meeting include the progress of the joint review paper, the potential preparation of a book proposal as evolution of the joint paper, and the possibility for the organization of a series of webinars/online seminars on the WG topics.

5. Any Other Business?

As other business, the re-organization of the WG officer team has ben discussed, with two new members assuming officer positions, namely:
Vice-Chair: Lorenzo Bottaccioli, Polytechnic of Torino
Secretary: Sai Pushpak, Pacific Northwest National Laboratory

6. Adjournment

The meeting was adjourned at 1:00 PM.

Respectfully submitted,
Tiago Pinto