Program Workshop AI for Energy

27 June 2024

3:30 pm – 6:00 pm
Room: Lotus Junior 4D

IEEE International Conference on Artifical Intelligence 2024 – IEEE CAI 2024, June 25-27, 2024, Sands Expo & Convention Centre, Marina Bay Sands, Singapore

Organized by Zita Vale, G. Kumar Venaygamoorthy, João Soares

3.30 pm to 3:40 pm: Introduction of the Workshop

3:40 pm to 4:45 pm: Presentations

1. Cellular Computational Networks for Distribution System Modeling and Optimal Volt-Var Control

   G. Kumar Venayagmoorthy *(Clemson University, SC, USA)*

   Hasala Dharmawardena (Siemens, NY, USA)

2. Machine Learning-based Approach for Increasing the Hosting Capacity of PV Generation in Distribution Networks

   Seyed Farhad Zandrazavi (School of Technology and Innovations, University of Vaasa, 65200, Western Finland, Vaasa, Wolffintie 34, Finland)

   Juan Carlos Cortez (Department of Energy Systems, University of Campinas, 13083-970, Southeast Region, Campinas, Av. Albert Einstein, 500, Brazil)

   João Soares *(School of Engineering, Polytechnic of Porto, 4200-072, Northern Portugal, Porto, Rua Dr. António Bernardino de Almeida, 431, Portugal)*

   Miadreza Shafie-khah (School of Technology and Innovations, University of Vaasa, 65200, Western Finland, Vaasa, Wolffintie 34, Finland)

   Marcos J Rider (Department of Energy Systems, University of Campinas, 13083-970, Southeast Region, Campinas, Av. Albert Einstein, 500, Brazil)

   Zita Vale (School of Engineering, Polytechnic of Porto, 4200-072, Northern Portugal, Porto, Rua Dr. António Bernardino de Almeida, 431, Portugal)

3. Federated Learning for Energy Systems

   Joaquin Delgado Fernandez *(Interdisciplinary Centre for Security, Reliability and Trust (SnT) , University of Luxembourg, L-1855, Kirchberg, Luxembourg, 29 Av. John F. Kennedy, Luxembourg)*

   Sergio Potenciano Menci (*Interdisciplinary Centre for Security, Reliability and Trust (SnT) , University of Luxembourg, L-1855, Kirchberg, Luxembourg, 29 Av. John F. Kennedy, Luxembourg)*

   Ivan Pavić (Interdisciplinary Centre for Security, Reliability and Trust (SnT) , University of Luxembourg, L-1855, Kirchberg, Luxembourg, 29 Av. John F. Kennedy, Luxembourg)

Ramin Bahmani (Interdisciplinary Centre for Security, Reliability and Trust (SnT) , University of Luxembourg, L-1855, Kirchberg, Luxembourg, 29 Av. John F. Kennedy, Luxembourg)

Quoc Viet Nguyen (Interdisciplinary Centre for Security, Reliability and Trust (SnT) , University of Luxembourg, L-1855, Kirchberg, Luxembourg, 29 Av. John F. Kennedy, Luxembourg)

4. Forecasting the Energy Demand of an Industrial Plant Using Neural Networks

   Cyrus Alexander Emami *(datablick e.U., Austria)*

   Thomas Kurz (Montanuniversity Leoben, Austria)

   Kerstin Pfleger-Schopf (Montanuniversity Leoben, Austria)

   Thomas Kienberger (Montanuniversity Leoben, Austria)

4:45 pm to 5:00 pm – Tea Break

5:00 pm to 5:45 pm: Presentations

5. Generative Deep Learning Models for Synthetic Energy Data Generation

   Tiago Pinto *(University of Tras-os-Montes and Alto Douro, Vila Real, Portugal)*

   Diogo Viana (University of Tras-os-Montes and Alto Douro, Vila Real, Portugal)

   José Baptista (University of Tras-os-Montes and Alto Douro, Vila Real, Portugal)

6. Artificial Intelligence for Energy Consumers

   Bilal Khan *(Canada Excellence Research Chair at the Next Generation Cities, Gina Cody School of Engineering and Computer Science, Concordia University, Montreal, QC Canada)*

   Saifullah Shafiq *(School of Electrical Engineering and Computer Science, University of Queensland (UQ), Brisbane Australia)*

   Sadam Hussain (Canada Excellence Research Chair at the Next Generation Cities, Gina Cody School of Engineering and Computer Science, Concordia University, Montreal, QC Canada)

   Ali Taleb Al-Awami (Electrical Engineering Department, King Fahd University of Petroleum & Minerals (KFUPM), Dammam, KSA)

   Mithulananthan Nadarajah (School of Electrical Engineering and Computer Science, University of Queensland (UQ), Brisbane Australia)

   Ursula Eicker (Canada Excellence Research Chair at the Next Generation Cities, Gina Cody School of Engineering and Computer Science, Concordia University, Montreal, QC Canada)

7. Application of Artificial Intelligence in Adequacy Evaluation of Power Systems

   Gihan Amarasinghe *(Department of Instrumentation and Automation Technology, University of Colombo, 10206, Pitipana, Homagama, Sri Lanka)*

   Saranga Abeygunawardane (Department of Electrical Engineering, University of Moratuwa, 10400, Katubedda, Moratuwa, Sri Lanka)

5:45pm to 6:00 pm: Discussions & Conclusion