Special Interest Groups(SIG) on AI Empowered Internet of Vehicles

Chair: Ning Lu
Queen's University, Canada

Vice Chairs:
Xianfu Chen, VTT Technical Research Centre of Finland, Finland
Alagan Anpalagan, Ryerson University, Canada
Ning Zhang, University of Windsor, Canada
Peng Yang, Huazhong University of Science and Technology, China

Scope and Objectives

Internet of Vehicles (IoV) (including UAVs) empower vehicles to communicate with the surrounding environment and remote servers, enabling a wide range of on-the-go services, including road safety, infotainment, intelligent transportation, data acquisition. To better support IoV, heterogeneous networks (terrestrial networks, aerial networks and satellite networks) and heterogeneous resources (communication, computing and storage) expects to be integrated to provide service anywhere and anytime.

In such a dynamic and complex scenario, many technical challenges arise, e.g., high mobility of vehicles, stringent of service requirements, multi-dimensional randomness, great heterogeneity, etc. Artificial intelligence (AI) has great potential to address these technical challenges and manage heterogeneous resources efficiently to meet different quality of service (QoS) requirements of IoV.

This SIG group aims to provide a platform for researchers and developers from both industry and academia to exchange ideas, discuss key technologies, and share latest results, to promote the development of AI empowered IoV.

Recent Update

➢ Conference/workshop organizations

- IEEE INFOCOM Workshop on Pervasive Network Intelligence for 6G Networks (PerAI-6G) (21 paper accepted), May 20, 2023.
  - Keynote: Network Intelligence Meets Security and Privacy, Dr. Xiaodong Lin (University of Guelph, Canada)
  - Keynote: Human Digital Twin (HDT) for Human-Centric Services: Construction, Deployment, and Application, Dr. Jun Cai (Concordia University, Canada)

- ICCSPA'24- The 6th International Conference on Communications, Signal Processing, and their Applications, Istanbul, Türkiye, July 8-11, 2024.
  - 67 paper accepted out of 130+ submissions.

Recent Update

➢ Webinars

- "Mobility-Adaptive Digital Twin Modeling for Post-Disaster Network Traffic Prediction," Dr. Qiang Ye, University of Calgary, Canada, July 25, 2024 (scheduled).

➢ Ongoing Activities

- Organizing IEEE CIC/ICCC 2024 Workshop on Digital Twins and Pervasive Intelligence Synergy in Next-Gen 6G Networks, August 7-9, 2024.
  - Paper submission deadline: June 1, 2024.

➢ Future Plans

- Continue to organize workshop/conferences/SI
- Organize two more webinars on emerging topics

Thank you !