CALL FOR PAPERS
SPECIAL SESSION ON
Artificial Intelligence for Automatic Diagnosis and Control of Electric Vehicle
for ICCAD'23
7th edition in the series of the International Conference on Control, Automation and Diagnosis
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Session Chair:
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Session description:
The electric vehicle is the future...Keeping pace with technological development requires resorting to the artificial intelligent techniques (AI) in various fields as diagnosis and control. According to the modern needs asked by fast technological progress, the world of Artificial Intelligence could not fail to achieve successes in a sector experiencing an extreme growth such as the automotive one.
The automotive industry, in fact, has concentrated for many years a large part of its resources in the implementation of assisted driving systems and, more recently, autonomous driving. The new vehicles are equipped with an increasing number of optional, advanced security and control systems. However, we still face numerous unpredictable risks.
This special session deals with the problem of the diagnosis faults and control of the electric vehicle based artificial intelligent technique; The intelligent system implements behavioural processes that tend to imitate the human being ones, with operations pushing it to act and think humanly, or rationally. The necessity of vehicle fault diagnosis and control (VFDC) is one of the main goals and demands of the Internet of Vehicles (IoV) in autonomous applications.
It is intended that this special issue solicits discussions of best practices of the latest innovations and applications of AI based VFDC in electric vehicle for future autonomous vehicle application and proposes integrates various machine learning algorithms, failure prediction in various types of vehicles, such as the vehicle transmission system, abnormal engine operation, and tire condition prediction. Also discusses the main AI algorithms, such as supervised learning, unsupervised learning, and reinforcement learning, and compares the advantages and disadvantages of each algorithm in the application of system prediction, deep learning algorithms for fault classification, signal processing methods. The topics of interest include, but are not limited to:

- Automatic fault detection of electrical machines and drives;
- Automatic fault tolerant control of electrical systems;
- Digital technologies for fault tolerant systems;
- Self-diagnostic and self-healing techniques in AI for smart IoT applications;

- AI-empowered sensing for intelligent transportation systems / electric vehicles;
- AIS in health informatics;
- Clustering and classification algorithms;
- AI-based sensing technologies and autonomous applications;
- Big-data analytics for data processing from sensor;
- AI-empowered sensing for smart cities/applications.

SUBMISSION

Papers must be submitted electronically for peer review by**: December 31, 2022**

Submission – ICCAD 2023 (iccad-conf.com)

All papers must be written in English and should describe original work. The length of the paper is limited to a maximum of 6 pages (in the standard IEEE conference double column format).