Special Issue

Safety and Security of AI in Autonomous Driving

Message from the Guest Editors

Safety and security are significant enablers for self-driving vehicles and the future of transportation. Any security issues in these complex machines can lead to a safety-critical event, such as a life-threatening accident. As a result, there is an urgent need to develop algorithms and tools that can evaluate their system and security. Developing a safe and secure self-driving car requires extensive knowledge in a variety of aspects, including, but not limited to, safety, security, perception, localization, control, path planning, prediction, sensing, etc. Furthermore, the recent increase in the use of Artificial Intelligence (AI) in self-driving technologies opens up a broad field of research with tremendous progress in addressing the fundamental challenges of ensuring their safety and security. For autonomous driving technologies, these topics include, but are not limited to, the following:

- Safety and security analysis of self-driving cars;
- Safe and secure path prediction and planning;
- Safe and secure localization;
- Safe and secure object detection and classification;
- Sensor spoofing detection and mitigations;
- Safe and secure machine learning.

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Deadline for manuscript submissions

closed (31 October 2024)

Machines

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 4.7

mdpi.com/si/174269

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Message from the Editor-in-Chief

Machines is an international, peer reviewed journal on machinery and engineering. It publishes research articles, reviews and communications.
Our aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. There is no restriction on the length of the papers. Full experimental and/or methodical details must be provided.
There are, in addition, unique features of this journal: Manuscripts regarding research proposals and research ideas will be particularly welcomed; Electronic files or software regarding the full details of the calculation and experimental procedure - if unable to be published in a normal way can be deposited as supplementary material.

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