Special Issue

Advances in Decision-Making and Motion Planning for Autonomous Vehicles

Message from the Guest Editor

Decision-making and motion planning are key to every automated physical system, and represent a well-investigated subject in the field of robotics. Recent advanced driving assistance systems (ADAS) have had functionalities such as adaptive cruise control (ACC) and automatic parking. Yet, challenges remain regarding guaranteed performance and safety under all driving circumstances. For instance, planning methods that provide safe and system-compliant performance in complex, cluttered environments while modeling the uncertain interaction with other traffic participants are required. Especially under multi-agent situations, autonomous vehicles need to perform socially aware motion planning based on forecasting models of other agents while anticipating how their own plan will likely affect surrounding agents. Therefore, as an ever-growing number of autonomous vehicles are deployed on public roads, developing robust, safe, and reliable algorithms for decision-making and motion planning becomes increasingly important.

Guest Editor

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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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