Special Issue

Explainable AI and Evaluation of Algorithms for Autonomous Marine Vehicles

Message from the Guest Editor

Artificial intelligence (AI) is an enabling technology for autonomous marine vehicles, including autonomous surface vehicles (ASVs) and autonomous underwater vehicles (AUVs). Algorithms such as fast marching methods, evolutionary algorithms, artificial potential fields, neural networks, reinforcement learning, and many others are becoming increasingly popular for solving problems such as autonomous path planning and collision avoidance. However, there is currently no unified way to evaluate the performance of different algorithms, for example, with regard to safety or risk. In addition, the solutions produced by the algorithms must be understood by a human-in-the loop and from a legal rights and regulatory perspective as well as by other autonomous marine vehicles. Hence, we invite papers relating to these challenges of algorithms for autonomous marine vehicles, which may include (but are not limited to) one or more of the following aspects:

- Explainable AI (XAI)
- Simulated environments and frameworks
- Scenario generation
- Human-in-the-loop and human factors
- Physical field testing

Guest Editor

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Deadline for manuscript submissions

closed (1 March 2022)

Journal of Marine Science and Engineering

an Open Access Journal by MDPI

Impact Factor 2.8
CiteScore 5.0

mdpi.com/si/62368

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Message from the Editor-in-Chief

The *Journal of Marine Science and Engineering* (*JMSE*; ISSN 2077-1312) is an international peer-reviewed open access journal which provides an advanced forum for studies related to marine science and engineering. The journal aims to provide scholarly research on a range of topics, including ocean engineering, chemical oceanography, physical oceanography, marine biology and marine geosciences. We invite you to publish in our journal sharing your important research findings with the global ocean community.

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