



Explainable AI and Evaluation of Algorithms for Autonomous Marine Vehicles

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Message from the Guest Editor

Dear Colleagues,

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





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Message from the Editor-in-Chief

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