The maritime shipping sector toward intelligent and safe navigation is intrinsically tied to the integration of cutting-edge technologies (i.e., AI and big data). These technologies are being harnessed across multiple facets of the maritime domain. It is evident that these methodologies have the potential to significantly enhance the intelligence and safety of ships. This SI stands as a compendium of research papers that not only enrich the academic dialogue but also support substantial practical implications for the maritime industry. The insights and innovations contained within this SI are imperative in furthering the frontiers of intelligent and safe navigation. The contributions encompass a spectrum of recent developments, encompassing topics such as big data fusion for ship detection, collision avoidance through deep reinforcement learning approaches, and ship system identification, route planning, etc. These methods draw from a confluence of expertise, merging insights from ship science, AI, and their interdisciplinary interactions. Collectively, the research presented in this SI constitutes a vital stride in the ongoing endeavor to fortify and refine intelligent navigation.
MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.

**Open Access**
Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.

**Author Focus**
Authors and editors profit from MDPI’s over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.

**High Quality & Rapid Publication**
MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.

**High Visibility**
Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).

**Print on Demand and Multiple Formats**
MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.