Special Issue

Application of Target Detection Algorithm in Infrared Image

Message from the Guest Editors

With the growing demand for intelligent surveillance, autonomous systems, and remote sensing applications, infrared imaging has emerged as a critical modality for robust visual perception under challenging conditions such as low light, fog, or total darkness. In particular, target detection in infrared images presents unique opportunities and challenges, driven by the physics of thermal radiation and the limitations of current sensing technologies. As such, there is a growing need to develop specialized techniques tailored to infrared signals. This SI aims to highlight the latest research and developments in infrared target detection, with a focus on algorithm design, data-driven methods, real-time deployment, and cross-domain adaptation. Topics of interest include, but are not limited to, the following:

- Deep learning for thermal imagery
- Small-target detection and tracking in infrared
- Domain adaptation between visible and infrared modalities
- Sensor fusion and multi-modal detection
- Infrared dataset creation and augmentation techniques
- Real-time and edge deployment of IR detection systems
- Applications in defense, surveillance, automotive, and environmental monitoring

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Electronics is a multidisciplinary journal designed to appeal to a diverse audience of research scientists, practitioners, and developers in academia and industry. The journal is devoted to fast publication of latest technological breakthroughs, cutting-edge developments, and timely reviews of current and emerging technologies related to the broad field of electronics. Experimental and theoretical results are published as regular peer-reviewed articles or as articles within Special Issues guestedited by leading experts in selected topics of interest.

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