

FRONTIERS IN ROBOTICS & AI

Research Topic – Special Issue



We welcome articles with theoretical or practical significance. Authors can report theoretical innovations or robust perception frameworks that cope with data volatility and degradation, as well as system papers that describe applications under challenging conditions and insights into why a particular approach performs well and the surmounted challenges.

For a full description see frontiersin.org/research-topics/11177, topics include but are not limited to:

Main Topics of Interest

- Robust recognition from low-quality and/or scarce data in different sensor domains (optical cameras, LiDARS, sonars, multibeam, event-cameras, hyper-spectral sensing.).
- Robust recognition in highly dynamic environments or long-term deployment robotic systems.
- Image/video restoration and enhancement from degradations due to low illumination, color distortion, inclement weather, poor visibility.
- Novel sensors developments or sensor fusion and calibration techniques for robust visual perception.
- Simulated environments and continuous system integration, i.e., synthetic data generation, simulation to real-world transition, hardware-in-the-loop.
- Low-quality and scarce data mining, augmentation, and processing methods for visual systems.
- Deep learning practices and machine learning pipelines in any of the mentioned topics.
- Heavily tested systems in field trials and best practices for deployment and data management.
- Surveys of computer vision algorithms and applications under adversarial and challenging environments.
- Applications of any of the previous to vision-based localization, registration, mapping, modeling, pose estimation and other areas.

Journal Special Issue Editors

- Arturo Gomez Chavez – Jacobs University Bremen gGmbH
- Dr. Christian A. Mueller – Jacobs University Bremen gGmbH
- Dr. Amy Tabb – United States Department of Agriculture (USDA)
- Prof. Sören Schwertfeger – ShanghaiTech University
- Dr. Enrica Zereik – Italian National Research Council (CNR)
- Dr. Max Pfingsthorn – Institute for Information Technology (OFFIS)
- Prof. Francesco Maurelli – Jacobs University Bremen gGmbH

If you wish to receive updates or more info, you can register here

<https://bit.ly/2On0hxU>



ROBOTICS PERCEPTION



IN ADVERSARIAL ENVIRONMENTS

JOURNAL OVERVIEW

Based on the success of the ICRA 2019 Workshop on **Underwater Robotics Perception**, the organizers have collaborated with other researchers to create a Special Issue on “Robotics Perception in Adversarial Environments” which will be part of the Frontiers in Robotics and AI - Robot and Machine Vision Journal.

We invite computer vision and robotics experts from various fields to share their experience while working with applications for dynamic environments with non-dependable data, e.g., autonomous driving, agricultural robotics, underwater exploration, mining, search and rescue robotics, highly agile UAVs, environmental conservation, and many others.

All submissions are peer-reviewed and selected based on their originality, technical quality, clarity and their relevance to the scope of the special issue.

IMPORTANT DATES

Abstract submission (for feedback):

Open ended

Manuscript submission:

January 31st, 2020

Author notification:

Rolling basis (2-3 months)

IMPORTANT DETAILS

- Open access. CiteScore 3.36. SJR 0.527, Q2 quartile.
- 30% discount in publishing fees due to positive reception of the topic during ICRA 2019 workshop.
- Possibility of institutional discount fees or fee-waivers. Please visit the Frontiers publisher website.