2nd Workshop on Signal Processing for Autonomous Systems

ICASSP 2024 KOREA

April 14-19, 2024
COEX, Seoul, KOREA

General chairs:
Shunqiao Sun
The University of Alabama, USA
Lucio Marcenaro
University of Genova, Italy
Bo Li
The University of Chicago, USA

Steering committee:
Anthony Vetro
Mitsubishi Electric Research Labs, USA
Athina Petropulu
Rutgers University, USA
Carlo Regazzoni
University of Genova, Italy

Important dates:
Paper Submission:
November 30, 2023

Notification of Paper Acceptance:
January 31, 2024

Camera-ready Papers due:
February 8, 2024

ICASSP is the world's largest and most comprehensive technical conference focused on signal processing and its applications. It offers a comprehensive technical program presenting all the latest development in research and technology in the industry that attracts thousands of professionals annually.

The 2nd **Workshop on Signal Processing for Autonomous Systems (SPAS)** is a satellite workshop associated with ICASSP 2024, organized by the Autonomous Systems Initiative (ASI) of the IEEE Signal Processing Society (SPS). The workshop will bring together researchers working on various aspects of autonomous systems to present the latest advances in the area and discuss future research opportunities and needs from industry.

Autonomous systems are gaining major traction in various sectors of industry, including autonomous vehicles, warehouse settings, smart production systems, industrial and infrastructure monitoring, medical systems, etc. There is certainly a great deal of signal processing technology that will be utilized to realize these various systems, but many challenges also exist. Understanding the precise needs in these various domains will be critical in propelling future signal processing research forward

The workshop aims to bring together researchers, practitioners and students from signal processing, machine learning and artificial intelligence fields to share knowledge on methodologies, features and results related to the evaluation, modeling and understanding of autonomous systems.

The workshop will aim to attract speakers in many key areas of autonomous systems, including those outside the main specialties of signal processing. Specific topics of interest include, but are not limited to:

- **Perception**: scene understanding based on multiple sensors such as camera, radar, Lidar; sensor fusion techniques; mapping and localization.
- **Networked autonomous systems**: cooperative positioning; edge-based and cloud-based processing systems; distributed learning; privacy-preserving data analysis.
- **Planning and Control**: motion planning, distributed and decentralized planning, optimization, robust and optimal control in the presence of uncertainty.
- **Human-Autonomous Systems Interaction**: interface design, cooperative systems, human factors, robot learning.
- **Applications**: autonomous cars/trucks, service robots, drones, warehouse and logistics, medical systems, infrastructure monitoring.
- **General AI based frameworks** for signal representation and inference in autonomous systems: theories and techniques.

Submission of Papers:
Papers may be no longer than 5 pages, including all text, figures, and references, and the 5th page may contain only references.
Papers must be submitted by the deadline. There will be no exceptions.
Accepted papers MUST be presented at the conference by one of the authors. One of the authors MUST register for the conference at one of the non-student rates offered, and MUST register before the deadline given for author registration. Failure to register before the deadline will result in automatic withdrawal of your paper from the conference proceedings and program. A single registration may cover up to four (4) papers.
ICASSP 2024 requires that each accepted paper be presented in-person by one of the authors at the conference according to the schedule published, and the guidelines posted below. Any paper accepted into the technical program, but not presented will be withdrawn from the official proceedings archived on IEEE Xplore.

Additional information at https://sites.google.com/view/ua2spas/