



Sustainable Communications for Renaissance

Call for Papers

2nd Workshop on Semantic Communications

SCOPE

In contrast to the Shannon paradigm whose underlying principle is to guarantee the correct reception of each single transmitted packet regardless of its meaning, the semantic communication is concerned with the problem of how transmitted symbols convey a desired meaning to the destination, as well as how effectively the received meaning affects the action in a desired way. By communicating the meaning or semantics of the data, semantic communication holds the promise of making wireless networks significantly more energy-efficient, robust, and sustainable. Moreover, the advancements on artificial intelligence (AI) provide a powerful tool for solving the fundamental problems in semantic communications, such as lack of mathematical model for semantic information. As a result, significant efforts have been made recently to design the machine learning (ML)-based semantic communications for future wireless networks. To build a pathway to semantic communications, network architecture, information processing, and transmission technologies, including physical (PHY) layer processing, medium access control (MAC), and air-interface in general should be redesigned carefully.

TOPICS OF INTEREST

The workshop will provide a forum for brain-storming on the semantic communications for 6G cellular networks and beyond. We aim to bring together the leading researchers in the field, both from academia and industry, to share their recent findings and their views. Topics of interest include, but are not limited to:

- Semantic entropy
- Semantic compression
- Semantic information pursuit for multimodal data
- Semantic coding and signal processing
- End-to-end semantic communication system
- Multi-agent reinforcement learning for semantic communications
- Distributed learning architectures for semantic communications: federated learning, split learning, in-device learning, collaborative inference, and so on
- Resource management for semantic communications
- Network architectures and protocols for semantic communications
- Privacy and security issues in semantic communications
- Efficient/scalable neural network architectures and training algorithms for semantic communications
- Experiments and testbeds for semantic communications
- Semantic communications in emerging wireless networks, i.e., virtual reality, autonomous driving, unmanned aerial vehicle, etc.

PAPER SUBMISSION

All papers should be submitted via EDAS. Full instructions on how to submit papers are provided on the IEEE ICC 2023 website: <https://icc2023.ieee-icc.org/>

WORKSHOP CO-CHAIRS

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IMPORTANT DATES

- ◆ **Paper Submission Deadline:**
20 January 2023
- ◆ **Paper Acceptance Notification:**
6 March 2023
- ◆ **Camera Ready and Registration for accepted papers:**
15 March 2023

SUBMISSION LINK

To be updated

WEBPAGE LINK

<https://sites.google.com/view/semcom/home>