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Journal of Imaging Science and Technology

Call for Special Issue Paper

Artificial Intelligence at the Forefront of Machine Vision and Image Processing

Summary

Machine vision plays a vital role in enabling automatic detection and recognition algorithms for industrial and consumer applications, such as quality inspection, process calibration, robotic guidance, biometric security, and autonomous driving. It is important to know that machine vision is a multidisciplinary research subject involving software algorithm, hardware implementation, object sensing, visualization, image processing and image understanding. As humanity continues to push the envelope of the technological advancement, the forefront of the computer vision research is no longer confined in a controlled environment, Furthermore, as computer vision and image processing technologies began to wade into mission-critical applications, such as medical prognosis and autonomous driving, the cost of decision error is extremely high or even fatal that the capability to detect minute discrepancies becomes critical.

Artificial Intelligence has been applied in machine vision to expedite the decision-making process. Not only AI can efficiently process many images and data information that was previously too difficult to gather but also extract subtle feature vectors via the deep network architectures. In fact, image recognition and understanding are often considered important research fields of artificial intelligence, where AI techniques are being used by the image processing academia and industry to solve a wide range of previously intractable problems.

Machine vision is becoming increasingly popular within industrial automation environments while also becoming more frequently used in other industries such as security, autonomous vehicles, food production, packaging, and logistics while also being included in robots and drones. Machine Learning (ML) and AI can harness the immense amount of operational data from clouds to services, to social and communication networks. In the era of big data and connected devices of all varieties,

ML/AI have found ways to improve operations and management of information technology networks, systems, and services. Further research is therefore needed to understand and improve the potential and suitability of ML/AI in the context of network, systems, and service management.

We invite you to submit your high-quality original research and comprehensive review articles that address the subject of the current Special Issue to make the scientific community aware of the most recent results related to the broad, multidisciplinary subject of the latest advance of AI in the machine vision and image process. All submitted papers will be evaluated on relevance, the significance of contribution, technical rigor, and quality of presentation by two to three independent reviewers.

Topics

Topics for this special issue include, but are not restricted to, the following fields:

- Machine learning in image processing
- Expert systems in image processing
- Knowledge engineering in image processing
- Neural networks in image processing
- Intelligent agents and multiagent systems in image processing
- Evolutionary and fuzzy computation in image processing
- Reasoning and inference in image processing
- Applications of artificial intelligence in image processing
- Visual Question Answering (VQA), Visual Reasoning
- Geospatial Artificial Intelligence, Geospatial AI(GeoAI), AI in Remote Sensing
- Visual Augmentation and Reconstruction, 3D Reconstruction of Deformable Surface
- Medical Image (such as CT, MRI, and ultrasound) Processing

Submission and Review

You will find submission details in the [JIST Author Guidelines](#). You must include a cover letter with the names of the authors and their affiliations, addresses, faxes, and e-mails.

Prospective authors can submit complete manuscripts electronically via <https://jst.msubmit.net> by **February 28, 2023**. All submitted papers will be reviewed by at least two reviewers and selected based on their originality, significance, relevance, and clarity of presentation.

Important Dates

- **Submission deadline: February 28, 2023**
- First round author notification: April 02, 2023
- First round revision submission: April 30, 2023
- Second round author notification: May 15, 2023
- Second round revision submission: May 31, 2023
- **Final notification: June 7, 2023**
- Publication: Nov/Dec Issue, 2023 (Tentative)

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