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EDITORIAL

Guest Editorial: machine learning for visual information processing & understanding

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Visual information processing and understanding is one of the most essential and fundamental tasks in Computer Vision, which has gained significant attention in recent years due to its numerous applications in various fields, including image recognition, object detection and semantic segmentation, etc. At the same time, the latest developments in network, display, and computing technologies are driving a fresh surge of user desires for more outstanding visual experiences. Over the past decade, machine learning, one of the most exciting fields of Artificial Intelligence, has contributed to remarkable advancements in the performance of visual perception systems, and they are still constantly evolving and developing. We have proposed this special issue to understand these advancements and technological development. The special issue is focused on a specific field of Computer Vision, i.e., machine learning for visual information processing and understanding.

This special issue focuses on machine learning for visual information processing and understanding. These new advancements in machine learning have promoted visual information processing and understanding to be adaptable in different real-world conditions which greatly provided convenience for people's lives, becoming an indispensable part of technological development and digital transformation. For example, technological breakthroughs in scene classification, semantic segmentation, object detection, and action recognition provide intelligent assistance for system platforms such as smart education, immersive audiovisual experience, etc.

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The new trends in machine learning advancements for visual information processing and understanding are used to propose this special issue with the idea of collecting papers on recent findings by the research community. We provide an opportunity to discuss recent challenges in a broad area of machine learning and computer vision. This special issue provides a platform to explore further areas in closely related areas such as deep network and hierarchical learning, image and video processing, visual information quality assessment, and machine learning-based multimedia applications. We have encouraged authors to submit papers on interdisciplinary research methodologies in this domain. Furthermore, to make these ideas and helpful research, we should be able to convert them into valuable models to be used in an environment.

We are still far away from finding solution of all the problems in machine learning for visual information processing and understanding and still there are many advancements that we have not covered in this special issue. But every paper in this special issue has significant contributions toward understanding the advancements in machine learning and computer vision. We hope that those scientists who are looking for solution to problem in visual information processing and understanding will benefit from reading these papers in the special issue and will find that machine learning and visual data perception are of great potential.

We have encouraged our authors to present multidisciplinary research papers in this special issue and present papers that are directly or indirectly related to machine learning for visual information processing and understanding. We hope that this special issue will be successful and have demonstrated new results and developments, and most importantly discover the new horizon for new algorithms and applications in the same domain. The success of this special issue can be attributed to the contributions of many individuals who participated in various capacities. Authors submitted their cutting-edge research and results, exploring potential future directions. We meticulously reviewed

all submitted papers, only selecting those that enhanced the field of machine learning for visual information processing and comprehension. Our reviewers played a crucial role in this special issue, providing valuable feedback to authors and sharing their expertise in the same domain. Our editorial team also deserves recognition for their support in the research paper process. Without their assistance, completing this special issue would not have been possible. Lastly, we extend our gratitude to our readers who invested their time in reading and comprehending these technical papers, offering feedback and seeking future directions in the same field. Thank you very much to all people who are directly or indirectly involved in this special issue and we hope that in future, many such special issues will provide opportunities to research.