

**Title:**

Machine learning and image processing

Abstract:

Machine learning has become a ubiquitous cross-industry term for describing vast amounts of large data sets that are challenging to store, search, share, visualize, analyze, and learn. Machine learning has the ability to predict and make the best decision by analyzing and learning massive data in computer. In recent years, machine learning has developed vigorously in the field of image processing. The hierarchy of various models used in image processing has been deepened and the structure has become increasingly complex. However, there are still many problems to be studied in depth. ICAIS 2020 Seminar on Practical Machine Learning and Image Processing aims to promote research, computing, algorithms, systems and applications in this emerging field of machine learning and image processing. The Practical Machine Learning and Image Processing Workshop in ICAIS 2020 aims at finding more effective and theoretical machine learning algorithms and studying machine learning architecture that can integrate multiple perceptual information. It solicits high-quality papers that illustrate novel Big Data models, architecture and infrastructure, management, search and processing, security and privacy, applications, surveys and industrial experiences.

Scope and Topics:

Potential topics include but are not limited to:

- ✧ Information-theoretic learning
- ✧ Learning theory and algorithms
- ✧ Source separation
- ✧ Machine learning
 - ✧ • Bayesian learning and signal processing
 - ✧ • Cognitive information processing
 - ✧ • Dictionary learning
 - ✧ • Graphical and kernel methods
 - ✧ • Independent component analysis
 - ✧ • Tensor and structured matrix methods
 - ✧ • Scalable learning algorithms
 - ✧ • Subspace and manifold learning
 - ✧ • Sequential learning and decision methods
- ✧ Pattern recognition and classification
- ✧ Bounds on performance
 - Machine learning in image processing
 - ✧ • Image fusion
 - ✧ • Image segmentation
 - ✧ Image classification



- ◇ • Classification of cats and dogs
- ◇ • Tumor classification
- ◇ • Vehicle classification
- ◇ • Classification of plant diseases and insect pests
- ◇ Image recognition
- ◇ • Face recognition
- ◇ • Face expression recognition
- ◇ • Blade recognition
- ◇ • Traffic Sign Recognition
- ◇ • gesture recognition

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Chao Wang received his B.S. degree from Department an M.S. degree from China University of Mining and Technology in 2007 and 2010, respectively, and the Ph.D. degree from Hohai University. Currently, he services as an associate professor in the College of Electronic and Information Engineering Nanjing University of Information Science & Technology, and a visiting scholar in the Lab of Environmental Modeling and Spatial Analysis at The Ohio State University. His research interests include Machine learning, Deep learning, remote sensing image processing.

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