The 21st IEEE International Conference on Machine Learning and Applications
(IEEE ICMLA-2022)
Special Session: Deep Learning
December 12-15, 2022, The Bahamas, Caribbean
https://www.icmla-conference.org/icmla22/

Background and Aims

Deep learning techniques have achieved tremendous success in a variety of applications. Unlike other machine learning techniques, deep learning is able to generate hierarchical high-level representations from massive volumes of raw data automatically. This ability, in conjunction with the increased availability of large amounts of data and processing power, has enabled deep learning techniques to push the state-of-the-art in almost every domain it has been applied to, including computer vision, speech recognition, natural language processing, and machine translation. Deep-learning-based systems that achieve, and even exceed human performance, are rapidly being deployed in the real world, most widely in the industrial domain, health, financial institutions, and e-commerce. As deep learning-based agents become pervasive, their impact on society and the economy at large becomes ever more profound.

This special session aims to bring together professionals, researchers, and practitioners to discuss new advancements of deep learning in applications from industry, healthcare, transportation, agriculture, logistics, and commerce, including and not restricted to medical image processing, medical diagnosis using wearables, smart cities, autonomous vehicles, robotics, industrial control, and fault diagnosis, quality control, manufacturing, satellite image processing, environmental monitoring, communication systems, Internet of Things, security, natural language processing, etc.

Scope

This special session invites submissions with new developments from those working in areas of deep learning algorithms, systems, and applications. Topics covered by this special session include but are not limited to:

- Supervised Deep Learning Architectures
- Convolutional Neural Networks
- Capsule Networks
- Deep Reinforcement Learning
- Unsupervised Deep Learning Architectures
- Deep Belief Networks
- Deep Autoencoders
- Generative Adversarial Networks
- Adversarial Attacks and Defense Strategies
- Deep Learning for Text Generation
- Transfer Learning
- Deep Learning for Multi-Class Classification
- Deep Learning for Pattern Recognition
- Deep Learning for Segmentation and Object Detection

• Deep Learning for real-world applications such as:
  - Modelling and System Identification for Prediction and Forecasting
  - Quality control, condition monitoring, and fault diagnosis
  - Big Data, Web applications, Decision Support Systems,
  - Medical Applications and Cloud Computing
  - Robotics, Advanced Manufacturing,
  - Smart Cities, autonomous driving
  - Advanced Communications and Multi-media Applications,
  - Environmental applications and satellite image processing
  - Social Networks and Natural Language Processing, etc.

Submission Guidelines and Instructions
Papers submitted for review should conform to IEEE specifications. Manuscript templates can be downloaded from the IEEE website. The maximum length of a paper is 8 pages. All the papers will go through the double-blind peer-review process. The authors' names and affiliations should not appear in the submitted paper. The authors' prior work should be cited in the third person. Authors should also avoid revealing their identities and/or institutions in the text, figures, links, etc.

Paper Publication
Accepted papers will be published in the IEEE ICMLA 2022 conference proceedings (published by IEEE). A selected number of accepted papers will be invited for possible inclusion, in an expanded and revised form, in some journal special issues.

Important Dates:
Submission Deadline: September 9, 2022
Notification of Acceptance: October 7, 2022
Camera-ready papers & Pre-Registration: October 14, 2022

Special Session Organizers/Chairs:
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