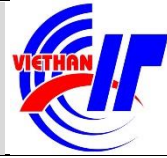




12th International Conference on Computational Collective Intelligence ICCCI 2020

30 November – 3 December 2020, Da Nang, Vietnam



DLAI 2020

Special Session on Deep Learning and Applications for Industry 4.0

at the 12th International Conference on Computational Collective Intelligence (ICCCI 2020)

Da Nang, Vietnam, 30 November – 3 December 2020

Conference website: <http://www.iccci.pwr.edu.pl/>

Special Session Organizers

Dr. Anh Duc Le

Research Organization of Information and Systems
Center for Open Data in the Humanities, Japan
E-mail: anh@ism.ac.jp

Dr. Tho Quan Thanh

Faculty of Computer Science and Engineering
Ho Chi Minh City University of Technology (HCMUT), Vietnam
E-mail: qttho@hcmut.edu.vn

Dr. Tien Minh Nguyen

Faculty of Information Technology
Hung Yen University of Technology and Education, Vietnam
E-mail: tiennm@utehy.edu.vn

Dr. Anh Viet Nguyen

Le Quy Don Technical University (LQDTU), Hanoi, Vietnam
E-mail: anhvp@lqdtu.edu.vn

Objectives and topics

Deep learning is a subfield of machine learning which designs models and learning algorithms for deep neural networks. Due to the ability to automatically learn features from big data and the superior representation and prediction performance, deep learning has gained great successes in various applications of computer vision, speech, NLP, etc. As a result, many companies have been focused on applying deep learning to make their services and products better. For example, Image recognition and speech recognition have used in many services of big companies such as Google, Microsoft.

The session focuses on developing deep learning models and applications to real-world problems for Industry 4.0. Deep learning has made many breakthroughs in various areas, which are an important part to build intelligent systems in Industry 4.0. In the last few years, various models have been proposed for different data representations making deep learning transited successfully from research to applications. In the context of this session, we will explore and discuss both new models and applications of deep learning for Industry 4.0.

This session is aimed to:

- Develop a community of researchers working on deep learning and its applications in practice
- Discuss state of the art and future directions of deep learning,
- Bring collaboration opportunities.

The scope of the DLAI 2020 includes, but is not limited to the following topics:

Deep Learning Models

- Deep learning architectures
- Deep reinforcement learning
- Recurrent networks architectures
- Effective feature embedding
- Neural networks for sequences, trees, and graphs
- Memory networks, transformer attention mechanisms
- Generative models: GAN, VAE
- Transfer learning

Deep Learning for Computer Vision

- Recognition (object detection, categorization)
- Representation learning, deep learning
- Scene analysis and understanding
- Image/Video analysis and understanding
- Image retrieval
- Biomedical Image Analysis and Biometrics
- Face, Fingerprint and Iris Recognition
- Motion Analysis and Object Tracking
- Vision for Robotics

Deep Learning for Natural Language Processing

- Parsing, syntax, chunking, tagging
- Information retrieval/extraction
- Recognizing textual entailment
- Text summarization and generation
- Machine translation
- Sentiment analysis, opinion mining
- Question answering
- Speech recognition
- Automatic text correction

Deep Learning for Applications

- Healthcare systems
- Business intelligence systems
- DL for biomedical text
- DL for finance/price forecasting/time series
- Recommendation systems
- Question answering
- Automatic speech recognition
- Handwriting recognition
- DL for less data applications
- Chatbot

Important dates

Due to the COVID-19 pandemic the conference date was postponed to 30 November - 3 December 2020
The second round of submitting and reviewing is organized:

Submission of papers: **June 1, 2020 (Hard deadline)**

Notification of acceptance: **July 1, 2020**

Camera-ready papers: **July 15, 2020**

Registration & payment: **July 15, 2020**

Conference date: **Nov. 30 - Dec. 3, 2020**

Program Committee

Lam Thu Bui, Le Quy Don Technical University, Vietnam
Lidong Bing, R&D Center Singapore, Alibaba DAMO Academy, Singapore
Danilo S. Carvalho, Universidade Federal do Rio de Janeiro, Brazil
Chau Thanh Duc, HCM University of Science, VNU HCM, Vietnam
Asanobu Kitamoto, National Institute of Informatics (NII), Japan
Van-Khanh Tran, University of Information and Communication Technology, Vietnam
Minh-Quoc Nghiem, The National Centre for Text Mining, University of Manchester, UK
Thanh-Huy Nguyen, Lazada, Alibaba group, Singapore
Thanh Trung Nguyen, Le Quy Don Technical University, Vietnam
Ngan Luu Thuy Nguyen, University of Information Technology, VNU HCM, Vietnam
Tri-Thanh Nguyen, University of Engineering and Technology, VNU Hanoi, Vietnam
Truong-Son Nguyen, University of Science, VNU-HCMC, Vietnam
Hoang-Quoc Son Nguyen, National Institute of Informatics (NII), Japan
Shogo Okada, Japan Advanced Institute of Science and Technology (JAIST), Japan
Xuan-Hieu Phan, University of Engineering and Technology, VNU Hanoi, Vietnam
Sang Phan, Ascent Robotics Inc., Japan
Hai-Long Trieu, National Institute of Advanced Industrial Science and Technology (AIST), Japan
Mai-Vu Tran, University of Engineering and Technology, VNU Hanoi, Vietnam
Thi Oanh Tran, International School, VNU, Hanoi, Vietnam
Hung Nguyen Viet, Le Quy Don Technical University, Vietnam
Thanh Vu, NIHR Innovation Observatory, Newcastle University, UK

Submission

All contributions should be original and not published elsewhere or intended to be published during the review period. Authors are invited to submit their papers electronically in pdf format, through EasyChair. All the special sessions are centralized as tracks in the same conference management system as the regular papers. Therefore, to submit a paper please activate the following link and select the track: ***DLAI 2020: Special Session on Deep Learning and Applications for Industry 4.0.***

<https://easychair.org/conferences/?conf=iccci20200>

Authors are invited to submit original previously unpublished research papers written in English, of up to 12 pages, strictly following the LNCS/LNAI format guidelines. Authors can download the Latex (recommended) or Word templates available at [Springer's web site](#). Submissions not following the format guidelines will be rejected without review. To ensure high quality, all papers will be thoroughly reviewed by the DLAI 2020 Program Committee. All accepted papers must be presented by one of the authors who must register for the conference and pay the fee. The conference proceedings will be published by Springer in the prestigious series LNCS/LNAI (indexed by ISI CPCI-S, included in ISI Web of Science, EI, ACM Digital Library, dblp, Google Scholar, Scopus, etc.).

COVID-19 pandemic issues

The ICCCI 2020 organizing committee decided to firmly organize the conference on the scheduled date from November 30 to December 3, 2020 on-site in Da Nang.

If, due to the COVID-19 pandemic, any of the authors will not be able to come to Vietnam, the organizing committee will provide them with the opportunity to present their papers online.

However, if the restrictions do not allow to organize a conference on-site, the entire conference will be held in OnLine mode, using a videoconferencing system and virtual meeting rooms.