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8th INTERNATIONAL SCHOOL ON DEEP LEARNING

DeepLearn 2023 Winter

Bournemouth, UK

January 16-20, 2023

https://irdta.eu/deeplearn/2023wi/

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Co-organized by:

Department of Computing and Informatics
Bournemouth University

Institute for Research Development, Training and Advice – IRDTA
Brussels/London

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Early registration: July 4, 2022

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SCOPE:

DeepLearn 2022 Winter will be a research training event with a global scope aiming at updating participants on the most recent advances in the critical and fast developing area of deep learning. Previous events were held in Bilbao, Genova, Warsaw, Las Palmas de Gran Canaria, Guimarães, Las Palmas de Gran Canaria and Luleå.

Deep learning is a branch of artificial intelligence covering a spectrum of current exciting research and industrial innovation that provides more efficient algorithms to deal with large-scale data in a huge variety of environments: computer vision, neurosciences, speech recognition, language processing, human-computer interaction, drug discovery, health informatics, medical image analysis, recommender systems, advertising, fraud detection, robotics, games, finance, biotechnology, physics experiments, biometrics, communications, climate sciences, bioinformatics, etc. etc. Renowned academics and industry pioneers will lecture and share their views with the audience.

Most deep learning subareas will be displayed, and main challenges identified through 24 four-hour and a half courses and 3 keynote lectures, which will tackle the most active and promising topics. The organizers are convinced that outstanding speakers

will attract the brightest and most motivated students. Face to face interaction and networking will be main ingredients of the event. It will be also possible to fully participate in vivo remotely.

An open session will give participants the opportunity to present their own work in progress in 5 minutes. Moreover, there will be two special sessions with industrial and recruitment profiles.

ADDRESSED TO:

Graduate students, postgraduate students and industry practitioners will be typical profiles of participants. However, there are no formal pre-requisites for attendance in terms of academic degrees, so people less or more advanced in their career will be welcome as well. Since there will be a variety of levels, specific knowledge background may be assumed for some of the courses. Overall, DeepLearn 2023 Winter is addressed to students, researchers and practitioners who want to keep themselves updated about recent developments and future trends. All will surely find it fruitful to listen to and discuss with major researchers, industry leaders and innovators.

VENUE:

DeepLearn 2023 Winter will take place in Bournemouth, a coastal resort town on the south coast of England. The venue will be:

Talbot Campus
Bournemouth University

https://www.bournemouth.ac.uk/about/contact-us/directions-maps/directions-our-talbot-campus

STRUCTURE:

3 courses will run in parallel during the whole event. Participants will be able to freely choose the courses they wish to attend as well as to move from one to another.

Full live online participation will be possible. However, the organizers highlight the importance of face to face interaction and networking in this kind of research training event.

KEYNOTE SPEAKERS:

Yi Ma (University of California, Berkeley), CTRL: Closed-Loop Data Transcription via Rate Reduction

Daphna Weinshall (Hebrew University of Jerusalem), Curriculum Learning in Deep Networks

Eric P. Xing (Carnegie Mellon University), It Is Time for Deep Learning to Understand Its Expense Bills

PROFESSORS AND COURSES: (to be completed)

Mohammed Bennamoun (University of Western Australia), [intermediate/advanced] Deep Learning for 3D Vision

Matias Carrasco Kind (University of Illinois, Urbana-Champaign), [intermediate] Anomaly Detection

Nitesh Chawla (University of Notre Dame), [introductory/intermediate] Graph Representation Learning

Seungjin Choi (Intellicode), [introductory/intermediate] Bayesian Optimization over Continuous, Discrete, or Hybrid Spaces

Sumit Chopra (New York University), [intermediate] Deep Learning in Healthcare

Luc De Raedt (KU Leuven), [introductory/intermediate] Statistical Relational and Neurosymbolic AI

Marco Duarte (University of Massachusetts, Amherst), [introductory/intermediate] Explainable Machine Learning

João Gama (University of Porto), [introductory] Learning from Data Streams: Challenges, Issues, and Opportunities

Claus Horn (Zurich University of Applied Sciences), [intermediate] Deep Learning for Biotechnology

Zhiting Hu (University of California, San Diego) & Eric P. Xing (Carnegie Mellon University), [intermediate/advanced] A "Standard Model" for Machine Learning with All Experiences

Nathalie Japkowicz (American University), [intermediate/advanced] Learning from Class Imbalances

Gregor Kasieczka (University of Hamburg), [introductory/intermediate] Deep Learning Fundamental Physics: Rare Signals, Unsupervised Anomaly Detection, and Generative Models

Karen Livescu (Toyota Technological Institute at Chicago), [intermediate/advanced] Speech Processing: Automatic Speech Recognition and beyond *(to be confirmed)*

David McAllester (Toyota Technological Institute at Chicago), [intermediate/advanced] Information Theory for Deep Learning

Dhabaleswar K. Panda (Ohio State University), [intermediate] Exploiting High-performance Computing for Deep Learning: Why and How?

Fabio Roli (University of Cagliari), [introductory/intermediate] Adversarial Machine Learning

Richa Singh (Indian Institute of Technology Jodhpur), [introductory/intermediate] Trusted AI

Kunal Talwar (Apple), [introductory/intermediate] Foundations of Differentially Private Learning

Tinne Tuytelaars (KU Leuven), [introductory/intermediate] Continual Learning in Deep Neural Networks

Lyle Ungar (University of Pennsylvania), [intermediate] Natural Language Processing using Deep Learning

Bram van Ginneken (Radboud University Medical Center), [introductory/intermediate] Deep Learning for Medical Image Analysis

Yu-Dong Zhang (University of Leicester), [introductory/intermediate] Convolutional Neural Networks and Their Applications to COVID-19 Diagnosis

OPEN SESSION:

An open session will collect 5-minute voluntary presentations of work in progress by participants. They should submit a half-page abstract containing the title, authors, and summary of the research to david@irdta.eu by January 8, 2023.

INDUSTRIAL SESSION:

A session will be devoted to 10-minute demonstrations of practical applications of deep learning in industry. Companies interested in contributing are welcome to submit a 1-page abstract containing the program of the demonstration and the logistics needed. People in charge of the demonstration must register for the event. Expressions of interest have to be submitted to david@irdta.eu by January 8, 2023.

EMPLOYER SESSION:

Organizations searching for personnel well skilled in deep learning will have a space reserved for one-to-one contacts. It is recommended to produce a 1-page .pdf leaflet with a brief description of the company and the profiles looked for to be circulated among the participants prior to the event. People in charge of the search must register for the event. Expressions of interest have to be submitted to david@irdta.eu by January 8, 2023.

ORGANIZING COMMITTEE:

Rashid Bakirov (Bournemouth, local co-chair)
Nan Jiang (Bournemouth, local co-chair)
Carlos Martín-Vide (Tarragona, program chair)

Sara Morales (Brussels)
David Silva (London, organization chair)

REGISTRATION:

It has to be done at

https://irdta.eu/deeplearn/2023wi/registration/

The selection of 8 courses requested in the registration template is only tentative and non-binding. For the sake of organization, it will be helpful to have an estimation of the respective demand for each course. During the event, participants will be free to attend the courses they wish.

Since the capacity of the venue is limited, registration requests will be processed on a first come first served basis. The registration period will be closed and the on-line registration tool disabled when the capacity of the venue will have got exhausted. It is highly recommended to register prior to the event.

FEES:

Fees comprise access to all courses and lunches. There are several early registration deadlines. Fees depend on the registration deadline. The fees for on site and for online participation are the same.

ACCOMMODATION:

Accommodation suggestions are available at

https://irdta.eu/deeplearn/2023wi/accommodation/

CERTIFICATE:

A certificate of successful participation in the event will be delivered indicating the number of hours of lectures.

QUESTIONS AND FURTHER INFORMATION:

david@irdta.eu

ACKNOWLEDGMENTS:

Bournemouth University

Rovira i Virgili University

Institute for Research Development, Training and Advice – IRDTA, Brussels/London