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5th INTERNATIONAL SCHOOL ON DEEP LEARNING

DeepLearn 2022 Winter

Bournemouth, UK

January 17-21, 2022

Co-organized by:

Department of Computing and Informatics
Bournemouth University

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

https://irdta.eu/deeplearn2022w/

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Early deadline: July 28, 2021

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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 and Las Palmas de Gran Canaria.

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 different environments: computer vision, neurosciences, speech recognition, language processing, human-computer interaction, drug discovery, biomedical informatics, image analysis, recommender systems, advertising, fraud detection, robotics, games, 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 components of the event.

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 2022 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 2022 Winter will take place in Bournemouth, a coastal resort town on the south coast of England. The venue will be:

TBA

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 in vivo online participation will be possible. However, the organizers want to emphasize the importance of face to face interaction and networking in this kind of research training event.

KEYNOTE SPEAKERS:

Yi Ma (University of California, Berkeley), White-box Deep (Convolution) Networks from First Principles

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

Eric P. Xing (Carnegie Mellon University), TBA

PROFESSORS AND COURSES:

Peter L. Bartlett (University of California, Berkeley), [intermediate/advanced] Deep Learning: A Statistical Viewpoint

Joachim M. Buhmann (Swiss Federal Institute of Technology, Zürich), [introductory/advanced] Algorithm Validation for Data Science

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

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

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

Rüdiger Dillmann (Karlsruhe Institute of Technology), [introductory/intermediate] Building Brains for Robots

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

Charles Elkan (University of California, San Diego), [intermediate] AI and ML Applications in Finance and Retail

Rob Fergus (New York University), [intermediate/advanced] Self-supervised Learning of Visual Representations for Recognition and Interaction

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

Mark Girolami (University of Cambridge), [introductory/intermediate] Computational Statistics and Machine Learning

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

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

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?

Tomaso Poggio (Massachusetts Institute of Technology), [advanced] Deep Learning: Theoretical Observations

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

Jude W. Shavlik (University of Wisconsin, Madison), [introductory/intermediate] Advising, Explaining, Distilling, and Quantizing Deep Neural Networks

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

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

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

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 9, 2022.

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 9, 2022.

EMPLOYER SESSION:

Firms 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 9, 2022.

ORGANIZING COMMITTEE:

Rashid Bakirov (Bournemouth, co-chair)
Nan Jiang (Bournemouth, co-chair)
Carlos Martín-Vide (Tarragona, program chair)
Sara Morales (Brussels)
David Silva (London, co-chair)

REGISTRATION:

It has to be done at

https://irdta.eu/deeplearn2022w/registration/deeplearn-2022/

The selection of up to 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 get 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.

ACCOMMODATION:

Accommodation suggestions will be available in due time at

https://irdta.eu/deeplearn2022w/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

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