

\*\*\*\*\*

**4<sup>th</sup> INTERNATIONAL SCHOOL ON DEEP LEARNING**

**DeepLearn 2021 Summer**

**Las Palmas de Gran Canaria, Spain**

**July 26-30, 2021**

Co-organized by:

Department of Information Engineering  
Marche Polytechnic University

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

<https://irdta.eu/deeplearn2021s/>

\*\*\*\*\*

--- Early registration deadline: June 24, 2021 ---

\*\*\*\*\*

**SCOPE:**

DeepLearn 2021 Summer 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 and Warsaw.

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 neurosciences, computer vision, speech recognition, language processing, human-computer interaction, drug discovery, biomedical informatics, healthcare, recommender systems, learning theory, robotics, games, 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 21 four-hour and a half courses and 2 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. Interaction will be a main component 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:**

Master's students, PhD students, postdocs, and industry practitioners will be typical profiles of participants. However, there are no formal pre-requisites for attendance in terms of academic degrees. Since there will be a variety of levels, specific knowledge background may be assumed for some of the courses. Overall, DeepLearn 2021 Summer 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 and discuss with major researchers, industry leaders and innovators.

#### **VENUE:**

DeepLearn 2021 Summer will take place in Las Palmas de Gran Canaria, on the Atlantic Ocean, with a mild climate throughout the year, sandy beaches and a renowned carnival. The venue will be:

Palacio de Congresos Gran Canaria  
Institución Ferial de Canarias  
Avenida de la Feria, 1  
35012 Las Palmas de Gran Canaria

[https://www.infecar.es/index.php?option=com\\_k2&view=item&layout=item&id=360&Itemid=896](https://www.infecar.es/index.php?option=com_k2&view=item&layout=item&id=360&Itemid=896)

#### **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.

#### **KEYNOTE SPEAKERS:**

Nello Cristianini (University of Bristol), Data, Intelligence and Shortcuts

Petia Radeva (University of Barcelona), Uncertainty Modeling and Deep Learning in Food Analysis

#### **PROFESSORS AND COURSES:**

Ignacio Arganda-Carreras (University of the Basque Country),  
[introductory/intermediate] Deep Learning for Bioimage Analysis

Rita Cucchiara (University of Modena and Reggio Emilia), [intermediate/advanced]  
Learning to Understand Humans and Their Behaviour

Thomas G. Dietterich (Oregon State University), [introductory] Machine Learning Methods for Robust Artificial Intelligence

Georgios Giannakis (University of Minnesota), [advanced] Ensembles for Online, Interactive and Deep Learning Machines with Scalability, and Adaptivity

Sergei V. Gleyzer (University of Alabama), [introductory/intermediate] Machine Learning Fundamentals and Their Applications to Very Large Scientific Data: Rare Signal and Feature Extraction, End-to-end Deep Learning, Uncertainty Estimation and Realtime Machine Learning Applications in Software and Hardware

Çağlar Gülçehre (DeepMind), [intermediate/advanced] Deep Reinforcement Learning in the Real World: Offline RL [VIRTUAL]

Balázs Kégl (Huawei Technologies), [introductory] Deep Model-based Reinforcement Learning

Vincent Lepetit (ENPC ParisTech), [intermediate] AI and 3D Geometry for Self-supervised 3D Scene Understanding

Geert Leus (Delft University of Technology), [introductory/intermediate] Graph Signal Processing: Introduction and Connections to Distributed Optimization and Deep Learning

Andy Liaw (Merck Research Labs), [introductory] Machine Learning and Statistics: Better together

Abdelrahman Mohamed (Facebook AI Research), [introductory/advanced] Recent Advances in Automatic Speech Recognition

Hermann Ney (RWTH Aachen University), [intermediate/advanced] Speech Recognition and Machine Translation: From Statistical Decision Theory to Machine Learning and Deep Neural Networks

Jan Peters (Technical University of Darmstadt), [intermediate] Robot Learning

José C. Príncipe (University of Florida), [intermediate/advanced] Cognitive Architectures for Object Recognition in Video

Björn W. Schuller (Imperial College London), [introductory/intermediate] Deep Signal Processing

Sargur N. Srihari (University at Buffalo), [introductory] Generative Models in Deep Learning

Johan Suykens (KU Leuven), [introductory/intermediate] Deep Learning, Neural Networks and Kernel Machines

Gaël Varoquaux (INRIA), [intermediate] Representation Learning in Limited Data Settings

René Vidal (Johns Hopkins University), [intermediate/advanced] Mathematics of Deep Learning

Haixun Wang (Instacart), [introductory/intermediate] Abstractions, Concepts, and Machine Learning

### **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 July 18, 2021.

### **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 participating in the demonstration must register for the event. Expressions of interest have to be submitted to david@irdta.eu by July 18, 2021.

### **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 July 18, 2021.

### **ORGANIZING COMMITTEE:**

Emanuele Frontoni (Ancona, co-chair)  
Carlos Martín-Vide (Tarragona, program chair)  
Sara Moccia (Ancona)  
Sara Morales (Brussels)  
Marina Paolanti (Ancona)  
Manuel J. Parra-Royón (Granada)  
Luca Romeo (Ancona)  
David Silva (London, co-chair)

### **REGISTRATION:**

It has to be done at

<https://irdta.eu/deeplearn2021s/registration/>

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:**

Hotel accommodation suggestions with negotiated prices are available at

<https://irdta.eu/deeplearn2021s/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:**

Dipartimento di Ingegneria dell'Informazione, Università Politecnica delle Marche

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

Institución Ferial de Canarias