

9th Advanced Course on Data science & machine Learning – ACDL 2026

Riva del Sole Resort & SPA – Castiglione della Pescaia (Grosseto) Tuscany, Italy

8 – 12 June 2026

acdl2026.icas.events/

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Program Ver. 0.6 (4 pages) June 5th

	Mon, 8 June	Tue, 9 June	Wed, 10 June	Thu, 11 June	Fri, 12 June
09:00 – 09:50	Arthur Gretton	Arnulf Jentzen	Jason Weston	Free time	Lucas Beyer
09:50 – 10:40	Jason Weston	Panos Pardalos	Katja Hofmann		Giuseppe Di Fatta
10:40 – 11:20	Coffee break	Coffee break	Coffee break		Coffee break
11:20 – 12:10	Michal Valko	Jason Weston	Arnulf Jentzen		Sagar Vaze
12:10 – 13:00	Arthur Gretton	Arnulf Jentzen	Katja Hofmann		Sagar Vaze
13:00 – 15:00	Lunch	Lunch	Lunch	Lunch	Lunch
15:00 – 15:50	Michal Valko	Free time	Katja Hofmann	Lucas Beyer	Lucas Beyer
15:50 – 16:40	Jason Weston		Mario Guarracino	Raniero Romagnoli	Oral Presentations
16:40 – 17:20	Coffee break		Coffee break	Coffee break	Poster Session
17:20 – 18:10	Michal Valko		Mario Guarracino	Mario Guarracino	
18:10 – 19:00	S. Ricciardi, S. Scaboro, B. Turano		S. Ricciardi, S. Scaboro, B. Turano	Sagar Vaze	
20:00	Dinner	Dinner	Dinner	Dinner	Social Dinner*

Conference Room: *The Crown* (in the conference centre of the Riva del Sole Resort & SPA, number 7 on the resort map).

Registration: *June 7 @ 16:30 – 20:00* (in the foyer of the conference centre near The Crown conference room). Inside the Riva del Sole it is mandatory to wear the badge.

Group Photo: *Monday June 8 @ 13:00 Meeting point: terrace adjacent to the restaurant.*

Certificates will be given out on the last day of the course.

* For the *social dinner on the June 12*, we advise everyone **to dress up** (jacket and tie, suit, etc.).

Oral and Poster Sessions. In the program you will find the list of **accepted abstracts**. The **Oral Session** will be held on **Fri, June 12 @ 15:50**, the **Poster Session** will be held on **Fri, 12 June @ 16:40**. The Poster Session will be held in the **Da Vinci Conference Room** (first floor of the Congress Centre, number 6 on the resort map). *Those who have problems and cannot make the poster, please send us an email now, deadline **by June 1st**.*

- We recommend preparing and printing a poster of **size B0** (1000 × 1414 mm or 39.4 × 55.7 inches) in VERTICAL orientation on the board (avoid landscape orientation). If for some reason the B0 size is not possible, then use the A0 size (841 mm x 1189 mm, or 33.1 inches x 46.8 inches).
- It is not possible to print posters at the course venue. When you arrive at the course venue the posters must already be printed.**
- The Conference Organisers will provide all necessary supplies for mounting the posters (tape, etc).
- The poster boards will be ready each morning from 08:45.* All presenters are asked to hang their posters as soon as possible in the same morning of their assigned poster session. This way all delegates will be able to study them ahead of the poster session and come prepared with specific questions. Presenters are also asked to remove their posters at the end of the session. Any poster left unmanned on its poster boards after the poster session will be removed.

Lectures

Lucas Beyer, Meta, Zürich, Switzerland

Lecture 1/3 **”Transformers & Vision Transformers”**

Lecture 2/3 **”Transformers & Vision Transformers”**

Lecture 3/3 **”Transformers & Vision Transformers”**

Giuseppe Di Fatta, Free University of Bolzano, Italy

Lecture **”Multi-Task Deep Learning”**

Arthur Gretton, UCL, UK

Lecture 1/2 **”Causal Effect Estimation with Context and Confounders (Part 1)”**

Lecture 2/2 **”Causal Effect Estimation with Context and Confounders (Part 2)”**

Mario R. Guarracino, University of Cassino and Southern Lazio, Italy

Lecture 1/3 **”A Short Journey through Graph Embedding Techniques Part 1”**

Lecture 2/3 **”A Short Journey through Graph Embedding Techniques Part 2”**

Lecture 3/3 **”Graph Representation Learning for Agentic AI”**

Katja Hofmann, Microsoft Research Cambridge, UK

Lecture 1/3 **”Foundation of World Models”**

Lecture 2/3 **”Building a World Simulator”**

Lecture 3/3 **”Open Challenges and Future Directions”**

Arnulf Jentzen, University of Münster, Germany

Lecture 1/3 **”Mathematical Introduction to Stochastic Gradient Descent Optimization”**

Lecture 2/3 **”Error Analyses for Adam and further Accelerated and Adaptive Optimizers”**

Lecture 3/3 **”Deep Learning for High-Dimensional Partial Differential Equations”**

Raniero Romagnoli, Almawave, Italy

Lecture **”Building Enterprise AI Applications in Sovereign AI Ecosystem”**

Panos Pardalos, University of Florida, USA

Lecture **”A New Frontier: From a Single Network to a Network of Networks”**

Michal Valko, Stealth Startup & Inria & ENS MVA, France

Lecture 1/3 **”Lightspeed RL Fine Tuning for LLMs”**

Lecture 2/3 **”Online and Offline RL Considerations for LLMs“**

Lecture 3/3 **”New Advances on the Theory of Language Generation and Hallucination”**

Sagar Vaze, Mistral AI, France

Lecture 1/3 **”Large Vision Language models: Foundations I”**

Lecture 2/3 **”Large Vision Language models: Foundations II”**

Lecture 2/3 **” Large Vision Language models: Open Questions”**

Jason Weston, META New York, USA New York University, USA

Lecture 1/4 **”Self-Improving Language Models – Part 1”**

Lecture 2/4 **”Self-Improving Language Models – Part 2”**

Lecture 3/4 **”Self-Improving Agents”**

Lecture 4/4 **”The Future of Self-Improvement & the Promise of Co-Improving AI”**

Tutorial Speakers

Salvatore Ricciardi, Simone Scabro and Beatrice Turano, Almawave, Italy

Tutorial **”When Classical Meets Generative: Mixed Methods for Practical LLM Evaluation”**

Useful Information

1. **Very Important:** during lessons and Q&A sessions, absolute silence is recommended, you must not make noise, you must not disturb the Lecturer during the lesson or while she/he is answering questions posed by the audience.
2. **Resort Map, Castiglione della Pescaia Map,** and **ACDL 2026 Poster.**
3. Obviously, we recommend bringing your work laptop/tablet.
4. Participants who need to take an **exam/project/oral to have the 8 ECTS** credited are asked to email acdl@icas.cc and Prof. Nicosia giuseppe.nicosia.1@gmail.com **Please read the FAQ section “ETCS Credits Recognition”**
5. Inside Riva del Sole, **badges must be worn at all times.**
6. For dinner on the 12th, we advise everyone **to dress up** (jacket and tie, suit, etc.).
7. **Certificates** will be given out on the last day of the course. To receive the certificate you must have at least 85% of class attendance (we have CNNs/Transformers to compute and infer attendance ;-).
8. One last thing does not forget bathing suits, sunscreen, and stay hydrated.

Oral Session

Friday, 12 June @ 15:50 Oral Session

15:50-16:05

Ashish Chauhan, Uppsala University, Sweden

“Deep Learning based Clinical Outcome Prediction from 2D PET/CT Projections: Optimized Modelling Strategies, Temporal Evaluation, and Interpretability”

Ashish Chauhan¹

Sambit Tarai^{1,2}

Elin Lundstrom¹

Johan Ofverstedt¹

Hakan Ahlstrom^{1,3}

Joel Kullberg^{1,3,4}

¹ Radiology, Department of Surgical Sciences, Uppsala University, Uppsala, SE-75237, Sweden

² National Supercomputing Center (NSC), Linkoping University, Linkoping, SE-58330, Sweden

³ Antaros Medical, Molndal, SE-43153, Sweden

⁴ SciLifeLab, Uppsala University, Uppsala, SE-75237, Sweden

16:05-16:20

Edoardo Bianchi, Free University of Bolzano, Italy

“ProfVLM: A lightweight video-language model for multi-view proficiency estimation”

Edoardo Bianchi¹, Jacopo Staiano², Antonio Liotta¹

¹ Free University of Bolzano, Italy

² University of Trento, Italy

“But don't you see that the whole trouble lies here? In words, words. Each one of us has within him a whole world of things, each man of us his own special world. And how can we ever come to an understanding if I put in the words, I utter the sense and value of things as I see them; while you who listen to me must inevitably translate them according to the conception of things each one of you has within himself. We think we understand each other, but we never really do.”

Luigi Pirandello, Six Characters in Search of an Author.

Poster Session

Friday, 12 June @ 16:40 Poster Session (Da Vinci Conf. Room, 1st floor of the Congress Centre, number 6 on the resort map).

Alexander Barclay, CNAG/CRG/UPF, Spain

“Predicting HiC from DNA sequence with an integrated AlphaGenome and ChromNet pipeline”

Alexander Barclay, Marc A. Marti-Renom

Caroline Heijmans, Sirris, Belgium

“AI-Based Decision Support for Context-Aware Alarm Prioritization and Dynamic Task Routing in Hospitals”

Wei Lin, National University of Singapore, Singapore

“Bidirectional LSTM for Real-time Body Core Temperature Prediction: An Arm-Based Sensor Approach”

Zebin Duan, University of Southern Denmark, SDU, Denmark

“Bootstrapping Self-Supervised Learning of Binary Classification Using Error Bounds: A Case Study on a Robotic Insertion Task”

Andrea Sepielli, Sapienza University of Rome, Italy

“CAevalAgent: An LLM-Driven Framework for Automated UX Evaluation of Conversational Assistants in Smart Manufacturing”

Adriano Izzi, Sapienza Università di Roma, Italy

“Confidence Estimation of Text2SQL Systems through Automatic Tuple Generation”

Christian Mancini, Università degli Studi di Firenze, Italy

“GraphVAEBM: Molecular Graph Generation Combining Variational Autoencoders and Energy-Based Models”

Christian Mancini, Daniele Castellana

Francesco Giarrusso, Sapienza, University of Rome, Italy

“Guarding the Guardrails: A Taxonomy-Driven Approach to Jailbreak Detection”

Dorian Fildor, The Institute of Economics, Zagreb, Croatia

“Integrating K-means Clustering, Random Forest, and Dynamic Panel Models to Analyze SDG and Innovation Impacts on Stability in Tourism”

Olga Sorokoletova, Francesco Giarrusso, Vincenzo Suriani, Daniele Nardi, Sapienza University of Rome, Italy

“Learning from Mistakes: Can LLM Self-Recover after Misalignment?”

Aurelio Murolo, University of Naples Federico II, Italy

“Post-Hoc eXplainable AI Methods for Multimodal Agentic Systems in Technical-Scientific Information Retrieval”

Jiaang Li, Yifei Yuan, Wenyan Li, Mohammad Aliannejadi, Daniel Hershcovich, Anders Sogaard, Ivan Vulic, Wenxuan Zhang, Paul Pu Liang, Yang Deng, Serge Belongie, University of Copenhagen, Denmark

“RAVENEA: A Benchmark for Multimodal Retrieval-Augmented Visual Culture Understanding”

Alberto Fernández Hernández, Universitat Politècnica de Valencia, Spain

“Sinusoidal Initialization: Time for a New Start”

Magdalena Fritz, UNIQA Insurance Group & TU Wien, Austria

“Decision Tree Classification with Missing Values”

Simone Nicosanti, Tor Vergata University of Rome, Rome, Italy

“Optimizing DNN Workflows Deployment in the Edge-Cloud Continuum”

Sana Latif, University of Salerno, Italy

“A Federated Knowledge-Augmented AI Framework for Early Adverse Event Detection and Drug Hypothesis Generation”

Davide Bizzaro and Luciano Serafini, Università di Padova and Fondazione Bruno Kessler, Italy

“Discrete World Models via Regularization”

“Those who have an eye find what they are looking for even with their eyes closed”

Italo Calvino