

FAIR Spoke 7 Workshop 2025

SCHEDULE

March 20-21, 2025

Salone d'Onore
Castello del Valentino
Politecnico di Torino
Viale Mattioli, 39 - Torino



Edge and Exascale AI



2nd Year Workshop

March 20th, 2025

9.00 – 9.30 **Registration**

9.30 – 10.00 **Welcome & introduction** (Barbara Caputo)

10.00 – 13.00 **Session 1 - Edge AI** (Chair: Pangcheng David Cen Cheng)

- 10.00 – 10.30 **Artificial fear for the control of autonomous robots** (Andrea Usai)
- 10.30 – 11.00 **Methods for Transformer Models Compression** (Luciano Prono)

11.00 – 11.30 **Coffee Break**

- 11.30 – 12.00 **Reliability evaluation and enhancement for Edge DNNs** (Matteo Sonza Reorda)
- 12.00 – 12.30 **Computer vision for Robotics** (Giuseppe Averta)
- 12.30 – 13.00 **Onboard deep lossless and near-lossless predictive coding of hyperspectral images with line-based attentiona** (Diego Valsesia)

13.00 – 15.00 **Lunch Break**

15.00 – 18.00 **Session 2 - Exascale AI** (Chair: Pierre Barrat-Charlaix)

- 15.00 – 15.30 **Geospatial AI** (Francesca Matrone)
- 15.30 – 16.00 **Federated learning on large scale dataset** (Raffaello Camoriano)
- 16.00 – 16.30 **Scientific Machine Learning at scale at SISSA** (Andre Joshua Scaffidi, Sissa)

16.30 – 17.00 **Coffee Break**

- 17.00 – 17.30 **Edge-Wise Graph-Instructed Neural Networks** (Francesco della Santa)
- 17.30 – 18.00 **Task specific knowledge extraction and efficient editing from large pre-trained models** (Tatiana Tommasi)

18.00 – 18.15 **Conclusions** (B. Caputo)

18.30 – 20.00 **Welcoming Cocktail**

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9.30 – 11.00 **Scientific Outreach** (Chair: Flavio Giobergia)

- 9.30 – 10.00 Università degli Studi di Macerata (Luca Riccetti, Jacopo di Domenico) - **Introducing reinforcement learning in a large scale macroeconomic agent-based model**
- 10.00 – 10.30 Università degli Studi di Padova (Andrea Masiero) - **Multi-agent and multi-sensor systems for monitoring, mapping, and search and rescue application**
- 10.30 – 11.00 Università Politecnica delle Marche (Roberto Perdicca) - **3D.LLM: Open, Reusable and Multimodal Large Language Model Technology for Point Cloud Understanding**

11.00 – 11.30 **Coffee Break**

11.30 – 13.00 **Industrial Outreach** (Moderator: B. Caputo)

Round Table with:

- CENTRO DELTA S.R.L. (Paolo Napoletano, Asia Martino) - **Federated-cosmetics - Federated Learning for Dermocosmetic Treatments on Multi-Device Platforms**
- DEEP LEARNING ITALIA S.R.L. (Matteo Mendula) - **3D Generation in Fashion applications**
- KAYRHOS S.R.L. (Alessandro Nuara) - **AI Monitoring and Training for Edge Systems**
- KIWIFARM S.R.L (Carlo Perassi) - ARGORIS - **Agents on oriented graph for dynamic resource redistribution**
- SANTER REPLY (Elena Facco, Simone Voto) - **RAMen - Robust AI for Multi-agent Environments**

13.00 **Conclusion and Lunch**