SEMINARS AND WORKSHOPS

WORLD MAP OF AI: A VISUALIZATION OF AI METHODS AND DATA EXPLORATION BASED ON A LATENT NEURAL RECOMMENDER SYSTEM

Prof. Ran Jin will discuss about the implementation of a visualization tool called World Map of AI (AI Map for short) that visualizes the distance and similarity among datasets and AI methods.

February 10th, 2023

STARTING COURSES – DOCTORAL PROGRAMMES

PHD IN *INFORMATION TECHNOLOGY*

ENABLING AI AT THE EDGE: DESIGN, SECURITY, PERFORMANCE AND RUNTIME MANAGEMENT

Prof. Danilo Ardagna

Artificial Intelligence (AI) is becoming pervasive today, with the AI software worldwide market approaching 554.3 billion USD in 2024. Many of the benefits of this evolution will come from using computing resources at the periphery of the network where source data is produced with a reduction of applications latency and data transfers. The course will overview problems and solutions in designing AI applications in computing continua and their runtime performance optimization. It will be interdisciplinary in nature, providing a particular emphasis on end-users privacy preservation and security at the full continuum stack (edge layer, network, and cloud backend).

From 1st to 17th February 2023

HUMAN-COMPUTER INTERACTION FOR AI (HCI4AI)

Prof. Maristella Matera

The course will introduce participants to a conceptual/methodological framework that can help them i) identify issues that users can encounter when interacting with AI-based technologies (false expectations, biases in decision-making, limitation of control), and ii) approach them during the design of AI systems by means of a user-centered perspective leading to the identification of adequate user interfaces and interaction paradigms.

From 13th February to 6th March 2023

MULTI-AGENT LEARNING: FROM THEORY TO PRACTICE

Prof. Nicola Gatti

Multi-agent learning has recently demonstrated to be one of the most disruptive Artificial Intelligence tools to tackle adaptive, interactive, and cooperative situations (see, e.g., the recent breakthroughs by Google Deepmind). This course provides the theoretical groundings necessary to design multi-agent learning algorithms and describes how state-of-the-art techniques can be applied to concrete engineering problems in a wide range of application areas, such as, e.g., the Web, telecommunication systems, automation and control, traffic routing, economic transactions, and security settings.

From 27th February to 3rd March 2023

PHD IN *MECHANICAL ENGINEERING*

SMART MATERIALS BASED ON METALLIC AND CERAMIC SYSTEMS

Prof. Maurizio Vedani

The course aims to provide a survey about the main groups of smart materials owing to their ability to fulfil functions by reacting to stimuli coming from the environment.

From 7th February 2023

PHD IN *STRUCTURAL SEISMIC AND GEOTECHNICAL ENGINEERING*

REDUCED-ORDER MODELING OF NONLINEAR STRUCTURES USING INVARIANT MANIFOLD THEORY

Prof. Cyril Touze

The aim of the course, taught by Prof Cyril Touze from IMSIA ENSTA Paris, is to introduce the most recent and efficient model order reduction techniques based on the invariant manifold theory for non-linear vibrating structures. Analytical and numerical methods will be detailed in order to investigate the solutions of a system in terms of stability and bifurcations. Hands-on training sessions will guide the audience in a series of applications to engineering structures.

From 6th February 2023