Neural Networks and Deep Learning: Part 1: Theoretical Foundations

The first lecture is scheduled on January 11, 2022 - 9:00
Grey Room, Retis Lab, TeCIP Institute, Via Moruzzi, 1 – Pisa

Giorgio Buttazzo

Objectives: The aim of the course is to provide key concepts and methodologies to understand neural networks and deep learning models, explaining how to use them for pattern recognition, image classification, signal prediction, system identification, and adaptive control.

Course Program

1. Introduction to neural computing. Motivations. Main network models and learning paradigms.
8. Autoencoders: Compressing, denoising, sparse, and contracting autoencoders.
14. Sample applications and open issues.