Introduction to Deep Learning

A course for PhD students, Alma Mater Studiorum - Università di Bologna
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Instructor
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About the Course
This course presents an introduction to deep learning, a branch of machine learning concerned with the study and application of modern neural networks. Deep learning has tremendously advanced the state of the art in many research fields, such as computer vision or natural language processing, and has become a reference technology in several industries. Indeed, deep learning plays a key role in many recent successes of AI, like DeepMind's AlphaGo, speech recognition in digital assistants, and self-driving cars. This course aims at providing a solid understanding of the basic building blocks used to design and train the main algorithms in the deep learning toolbox.

Syllabus
- Introduction to machine learning
- Introduction to artificial neural networks
- Learning & regularization
- Convolutional neural network
- Recurrent neural network
- Introduction to Keras

Learning and assessment modalities
The course will be organised in three slots of 2+3 hours each. It will be offered in either Italian or English at the preference of the audience. The final assessment consists of a technical report on a recent paper on one of the course topics.

Teaching materials
The instructor will provide slides, notebooks, and a list of bibliographical references and additional material. All the course material is in English.

Schedule
- 15/06/2018: 11:00 - 13:00 and 14:00 – 17:00, Aula 4.2, Facoltà di Ingegneria, V.le Risorgimento 2, Bologna.
- 22/06/2018: 11:00 - 13:00 and 14:00 – 17:00, Aula 5.6, Facoltà di Ingegneria, V.le Risorgimento 2, Bologna.
- 29/06/2018: 11:00 - 13:00 and 14:00 – 17:00, Aula 5.6, Facoltà di Ingegneria, V.le Risorgimento 2, Bologna.