



*Seminario per il Corso di “Knowledge Engineering and Artificial Intelligence”*

Ingegneria Informatica Magistrale

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# Introduction to Multi-Agent Reinforcement Learning

**21 Novembre 2023 – Ore 14:15-16:00**

Dipartimento di Ingegneria - Aula 7B - Via Roma n. 29 - Aversa

Multi-Agent Reinforcement Learning (MARL) is an area of machine learning in which a set of decision-making agents learn to interact in a shared environment to achieve a specified goal. MARL builds on reinforcement learning and game theory, and focusses on aspects such as coordination, communication, and social welfare in an environment composed of multiple interacting agents. A vast array of applications can be addressed using MARL algorithms, including autonomous driving, multi-robot factories, automated trading, video games, and robotic rescue teams. This lecture will give an introduction to the field of MARL, covering some of the basic models

and approaches. The lecture is based on a new textbook "Multi-Agent Reinforcement Learning: Foundations and Modern Approaches" by S. Albrecht, F. Christianos, L. Schäfer, published by MIT Press (download: [www.marl-book.com](http://www.marl-book.com)).

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