

---

# Intelligenza artificiale

## Finalità

The course aims to introduce students to the techniques and technologies designed to reproduce smart behaviours on the computer, typical of living beings, with particular attention to the knowledge engineering and machine learning techniques.

## Programma

### **Knowledge engineering**

- Solving Problems by Searching. Search Problems and Blind Search Techniques.
- Knowledge representation.
- First-Order Logic.Inference in First-Order Logic
- Description logic.
- Uncertain Knowledge and Reasoning
- Classical Planning
- Ontologies and metadata
- XML and RDF.
- Taxonomies and Ontologies
- Semantic Web, OWL.

### **Machine learning**

Automatic learning and biological learning

Automatic learning in IA

Soft Computing techniques

- Neural networks
- Evolutionary Computation
- Genetic Algorithms
- Genetic Programming
- Evolutionary Strategies
- Fuzzy logic
- Hybrid Systems

Examples of applications

## Attività d'esercitazione

Laboratory exercises on real problems

## Modalità d'esame

Exercises carried on in the lab, written exam and final project

## Testi consigliati

Course notes and material distributed during the course