

# Introduction to Artificial Intelligence

Master on Internet of Things & Data Analytics

Tuesdays and Wednesdays

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# What is Artificial Intelligence?

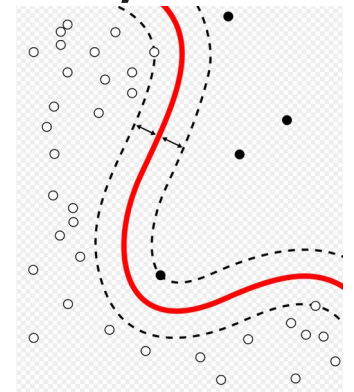
- There is no agreement on a universal definition
- "Set of algorithms, mostly HEURISTIC, focused on: *Reasoning, knowledge representation, planning, learning, natural language processing, and perception*"
- Heuristic: Practical method with no guarantees but it is good enough most of the times for the user
- Bio-inspired algorithms: They *mimic* human intelligence (whatever that means)

# Objectives of this course

- Introduce you to AI techniques from a practical point of view.
- Still, some mathematical knowledge is required.
  - Basics on algebra, calculus, and statistics.

# Machine learning

- ML is the study of computer algorithms that can improve automatically through the experience and by the use of data.
- Examples: Email filtering, Speech recognition, Computer vision.
- Supervised learning: The set of data contains both, the inputs and the desired outputs (support-vector machines, neural networks)



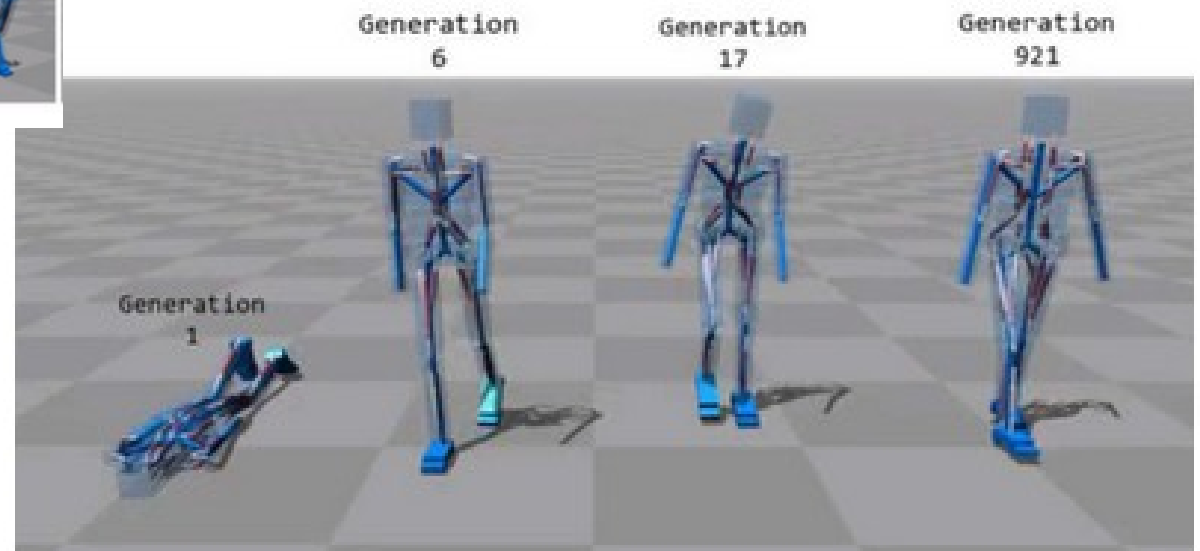
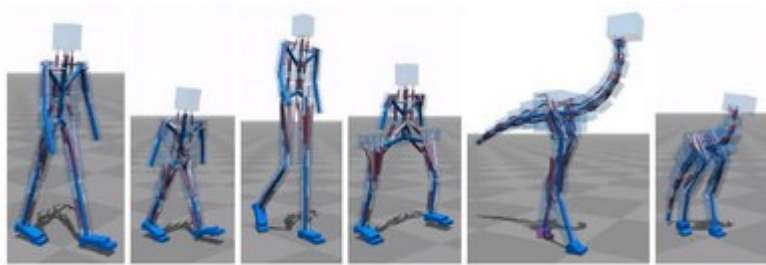
# Machine learning

- Unsupervised learning: Algorithms that find patterns from untagged data. (deep learning can be unsupervised).



# Genetic algorithms

- Good at generating a broad class of solutions to a problem.



# Evaluation

- Series of short quizzes on the topics
- Final project in groups (last 4 sessions) with the learned techniques