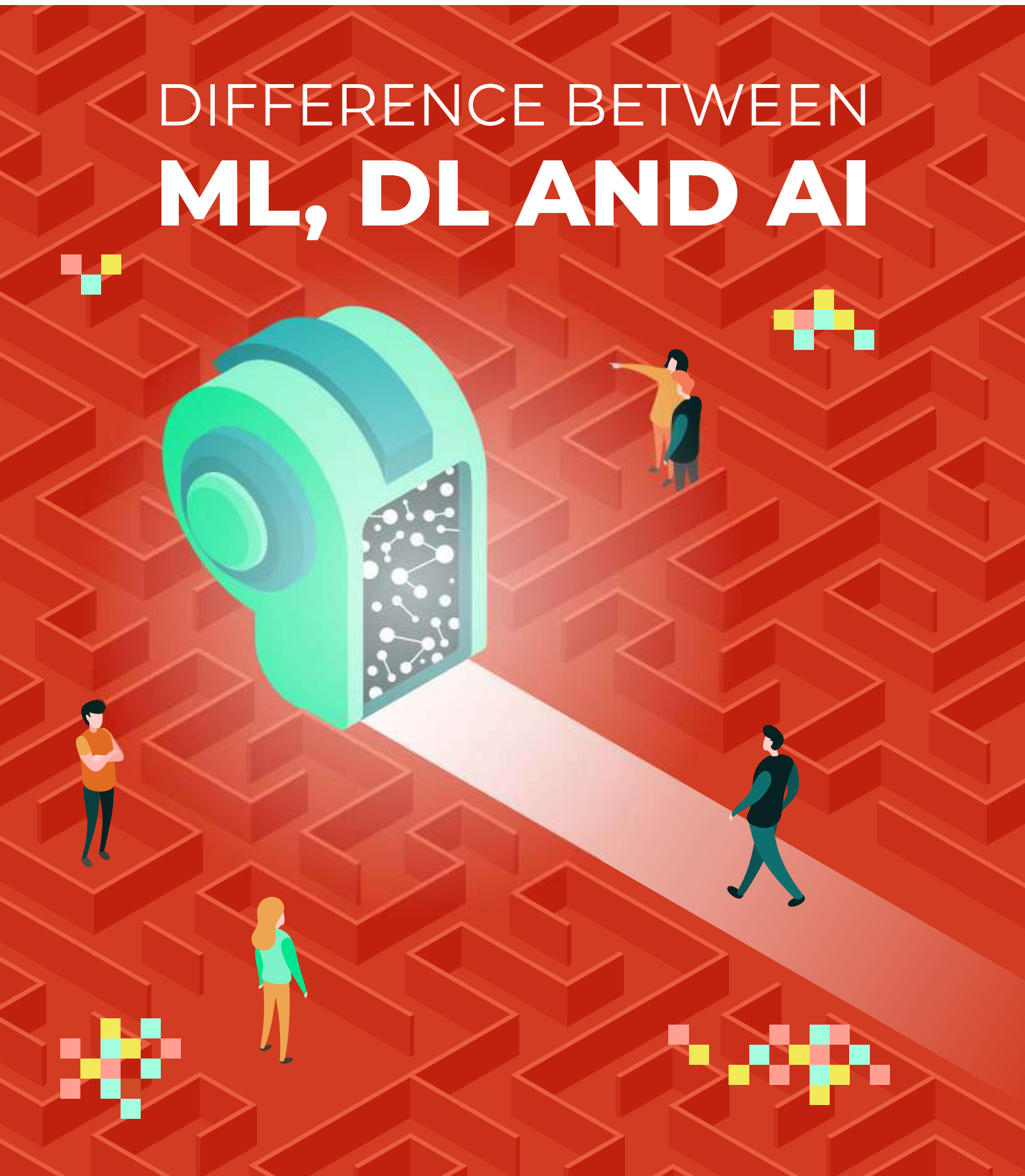
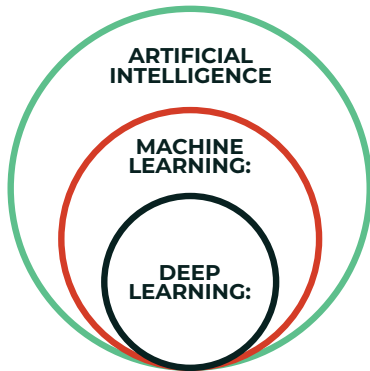


# DIFFERENCE BETWEEN **ML, DL AND AI**



# DIFFERENCES BETWEEN ML, DL AND AI

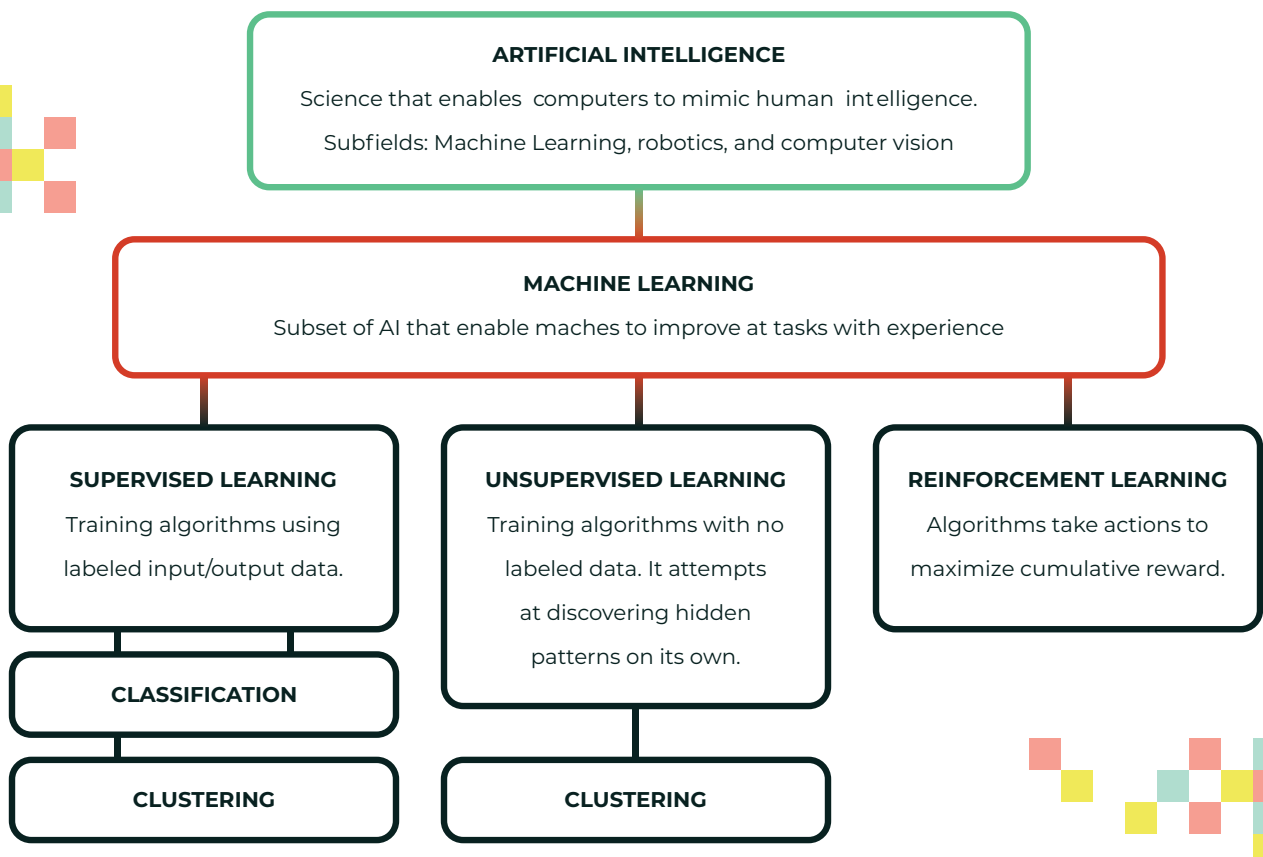


## ARTIFICIAL INTELLIGENCE

Science that empowers computers to mimic human intelligence such as decision making, text processing, and visual perception. Ai is a broader field (i.e.: the big umbrella) that contains several subfield such as machine learning, robotics, and computer vision.

## MACHINE LEARNING:

Machine Learning is a subfield of Artificial Intelligence that enables machines to improve at a given task with experience. It is important to note that all machine learning techniques are classified as Artificial Intelligence ones. However, not all Artificial Intelligence could count as Machine Learning since some basic Rule-based engines could be classified as AI but they do not learn from experience therefore they do not belong to the machine learning category.



# DIFFERENCES BETWEEN ML, DL AND AI

## DEEP LEARNING:

Deep Learning is a specialized field of Machine Learning that relies on training of Deep Artificial Neural Networks (ANNs) using a large dataset such as images or texts. ANNs are information processing models inspired by the human brain. The human brain consists of billions of neurons that communicate to each other using electrical and chemical signals and enable humans to see, feel, and make decision. ANNs works by mathematically mimicking the human brain and connecting multiple “artificial” neurons in a multilayered fashion. The more hidden layers added to the network, the deeper the network gets.

What differentiates deep learning from machine learning techniques is in their ability to extract features automatically as illustrated in the following example:

- Machine learning Process: (1) selecting the model to train, (2) manually performing feature extraction.
- Deep Learning Process: (1) Select the architecture of the network, (2) features are automatically extracted by feeding in the training data (such as images) along with the target class (label).

