

1 Introduction

From ancient times up to 2005, humans have created 130 exabytes of data.

A definition of Machine Learning would be: The field of study that gives computers the ability to learn without being explicitly programmed. - Arthur Samuel.

Types of machine learning:

- Supervised learning (Regression & Classification)
- Unsupervised learning (Clustering & Association)
- Reinforced learning

Reinforced learning is feedback based, the agent gets rewards for every right action and get penalized for every wrong action. **The agent interacts with its environment.**

2 Machine learning Life cycle

- Data pre-processing
 - Import the data
 - Clean the data
 - Split the data into test and training parts
- Modeling
 - Build the model
 - Train the model
 - Make predictions
- Evaluation
 - Calculate performance metrics
 - Make a verdict