



# INTRO TO ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

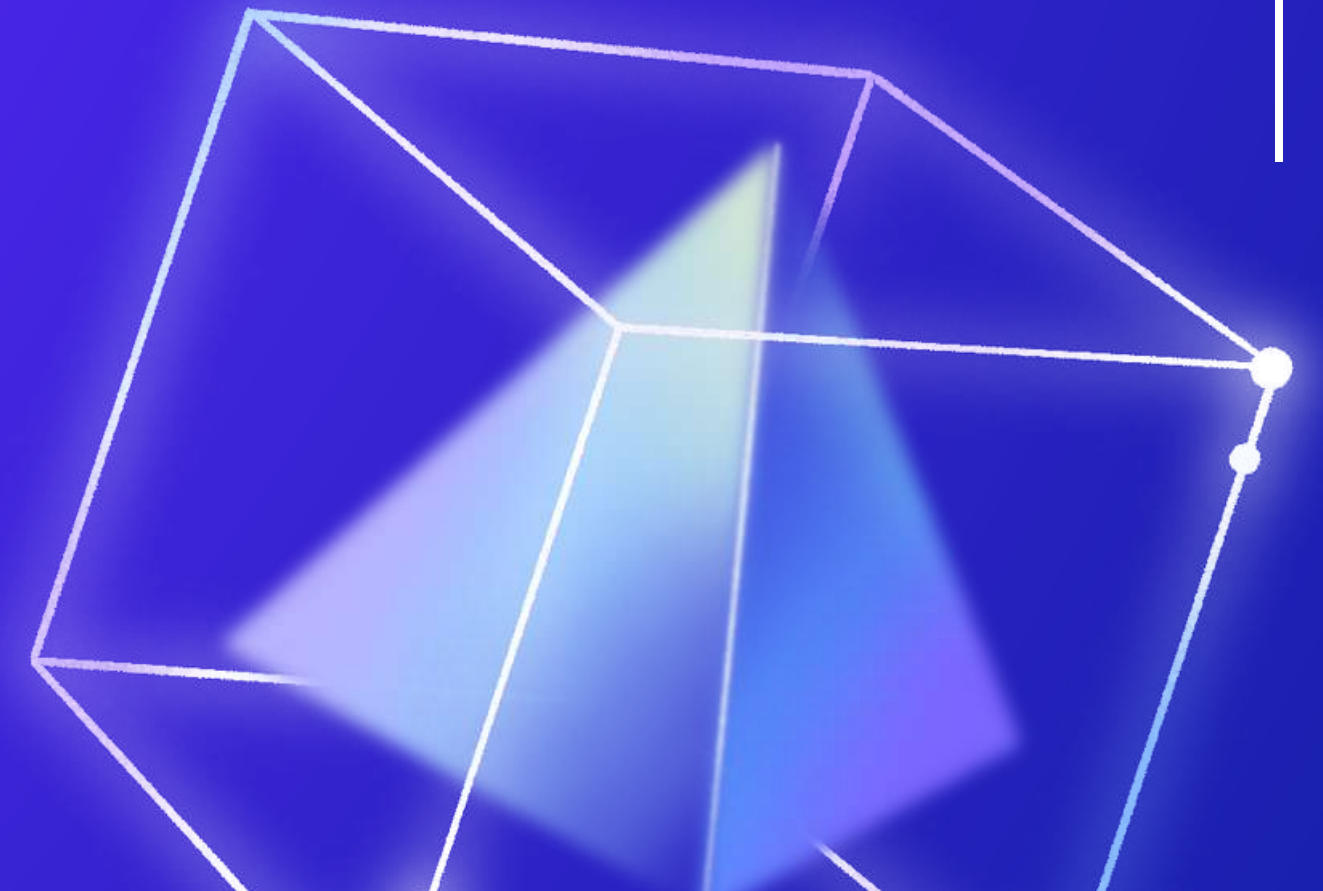
Adil Oubaibou & Adnane El majdoub





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WHY INTEREST IN AI ?

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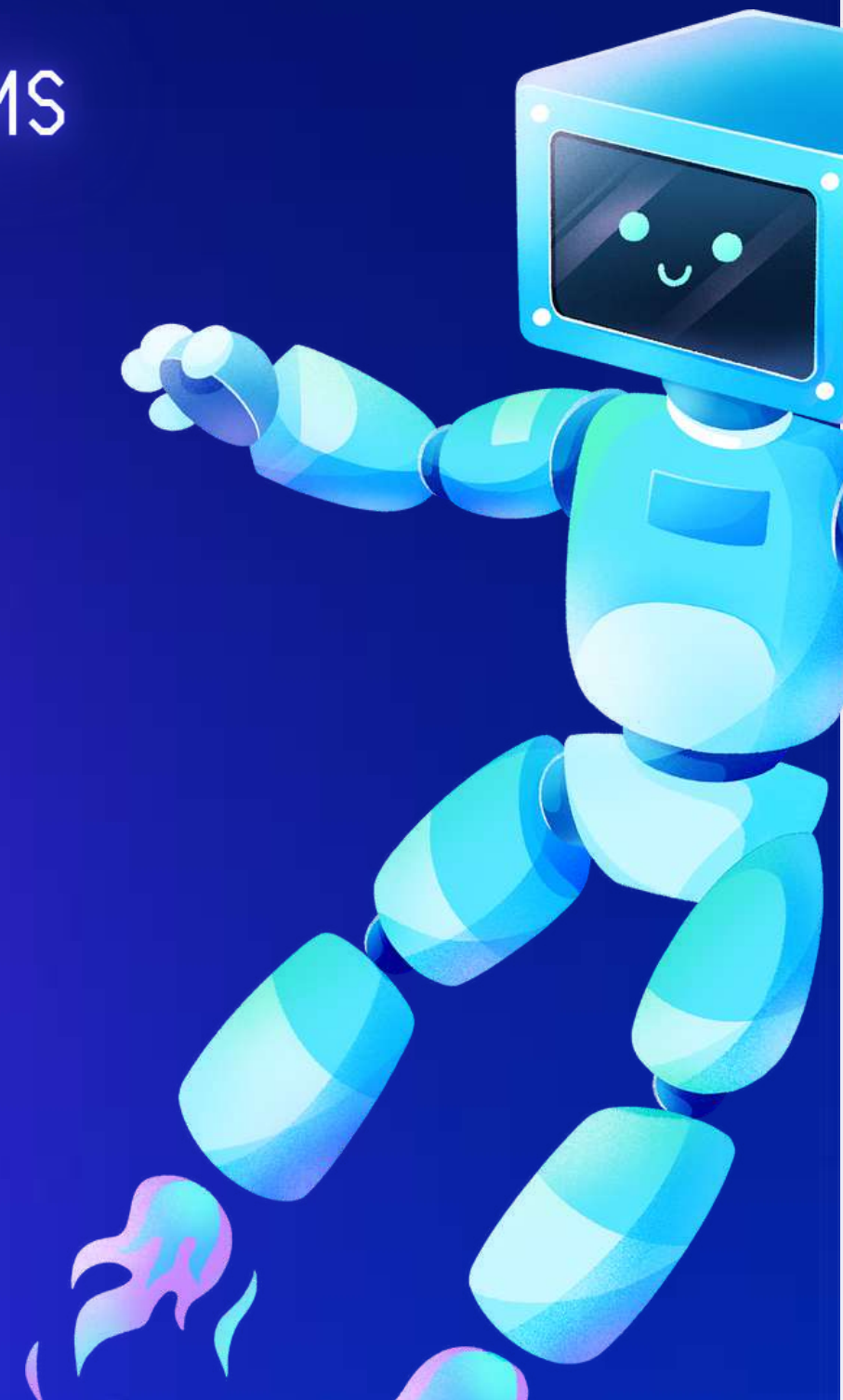




RECENT PROGRESS IN ALGORITHMS

AVAILABILITY OF DATA

COMPUTATIONAL POWER



# Artificial Intelligence

it's the ability for a computer (machine) to think and learn ***similarly*** to human

# Artificial Intelligence

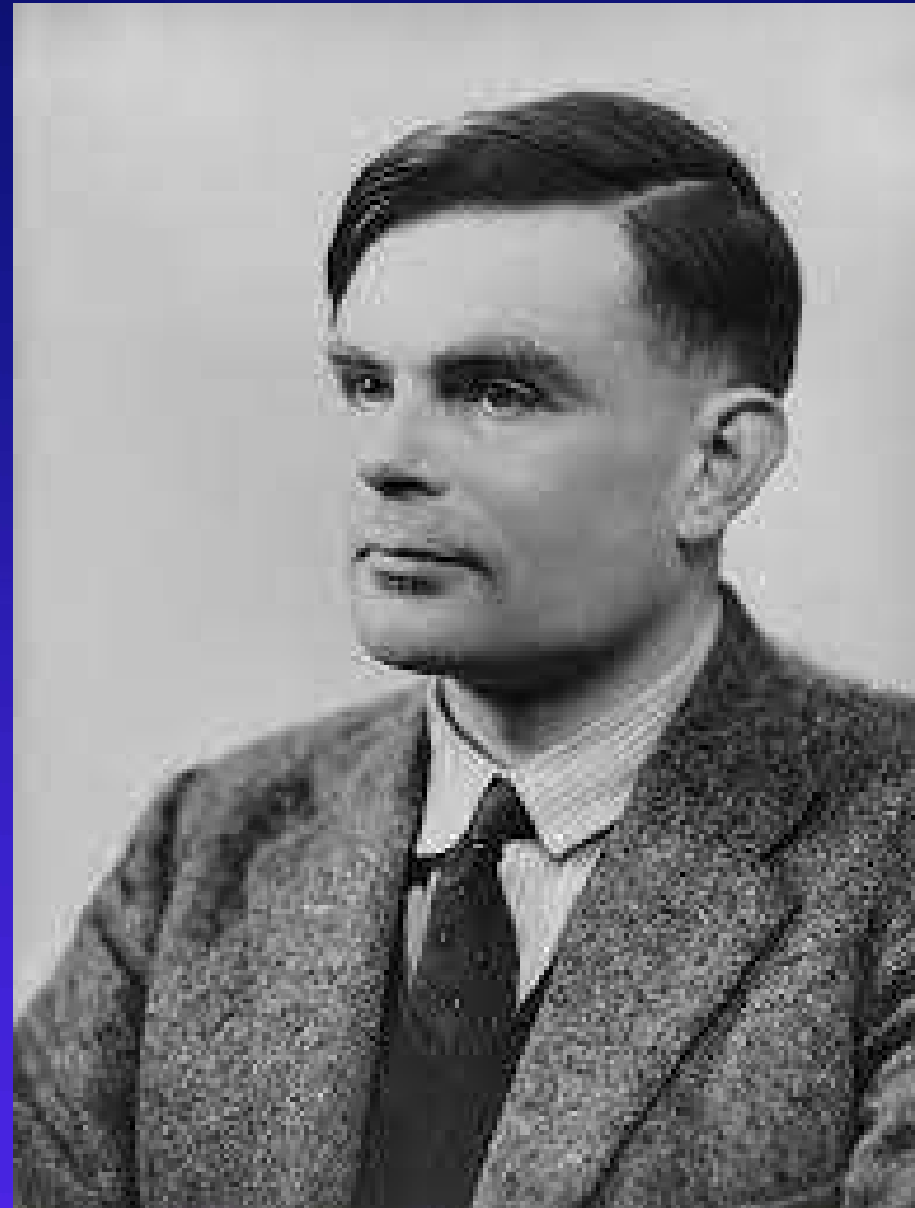
it's the ability for a computer (machine) to think and learn ***similarly*** to human

Humans : Reason --> Act

Machines : **Rational** decisions --> **Rational** actions

**What is intelligence ?**

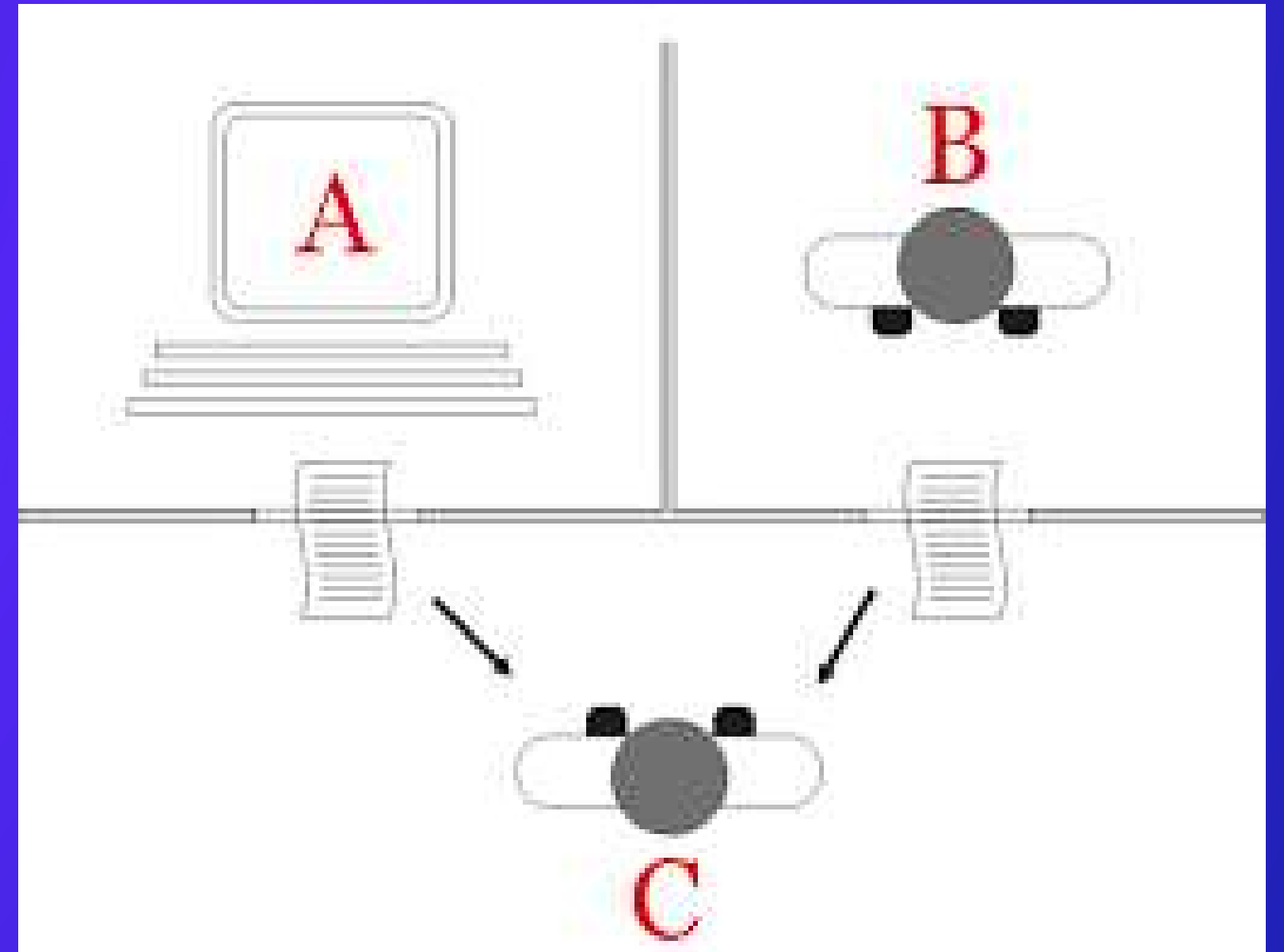
**Can we measure intelligence ?**



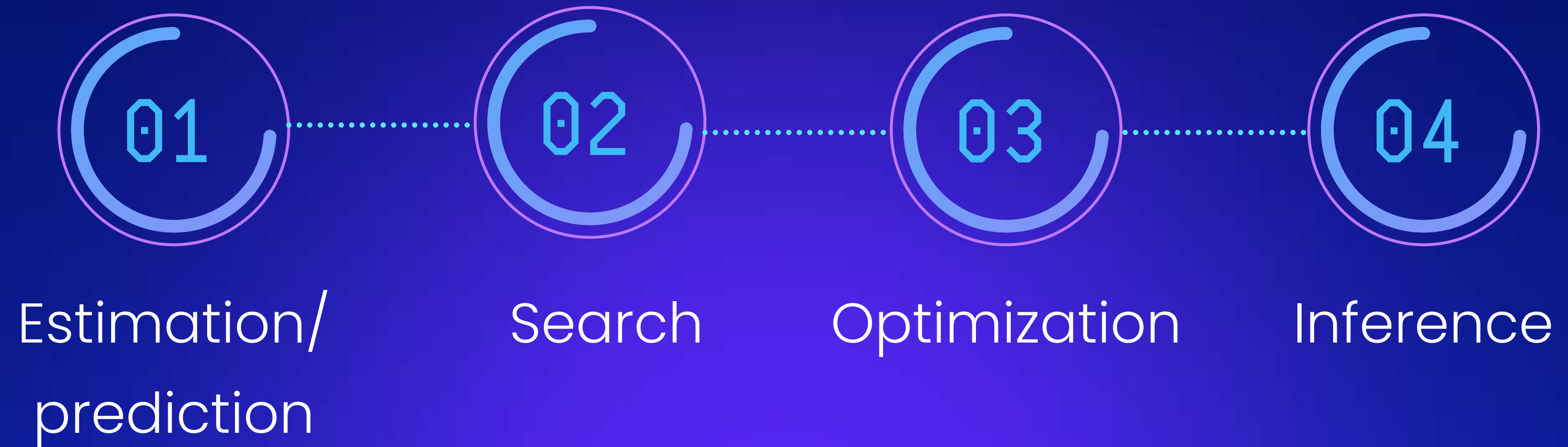
ALAN TURING (1912-1954)



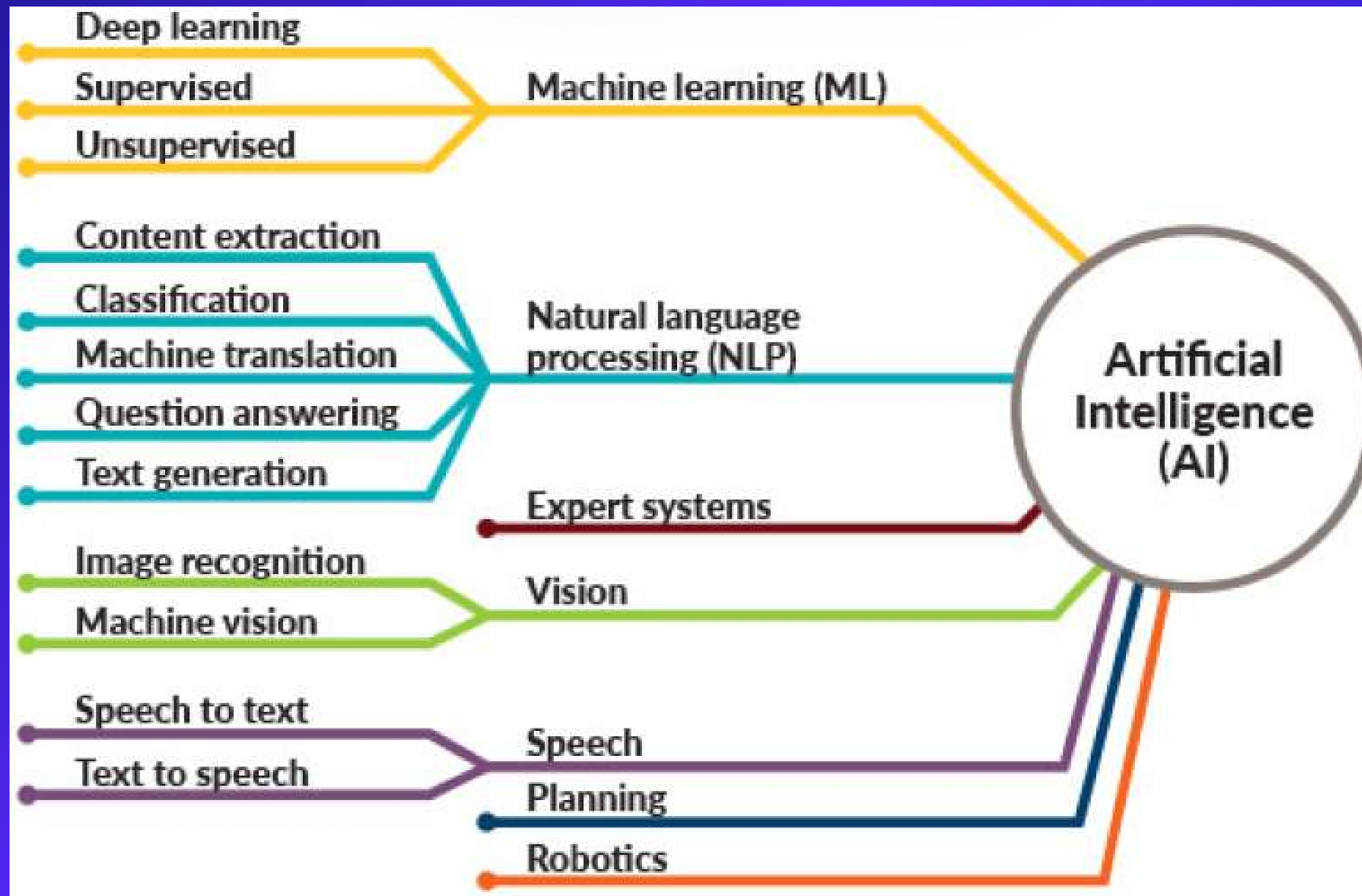
# TURING TEST



# MAIN TASKS OF AI



# TYPES OF AI





# Machine learning

machine learning uses algorithms to analyze large amounts of data, learn from the insights, and then make informed decisions



# PROJECT OBJECTIVES



## SUPERVISED LEARNING

Predictive Model  
+ Labeled data

## UNSUPERVISED LEARNING

Descriptive Model  
+ Unlabeled data

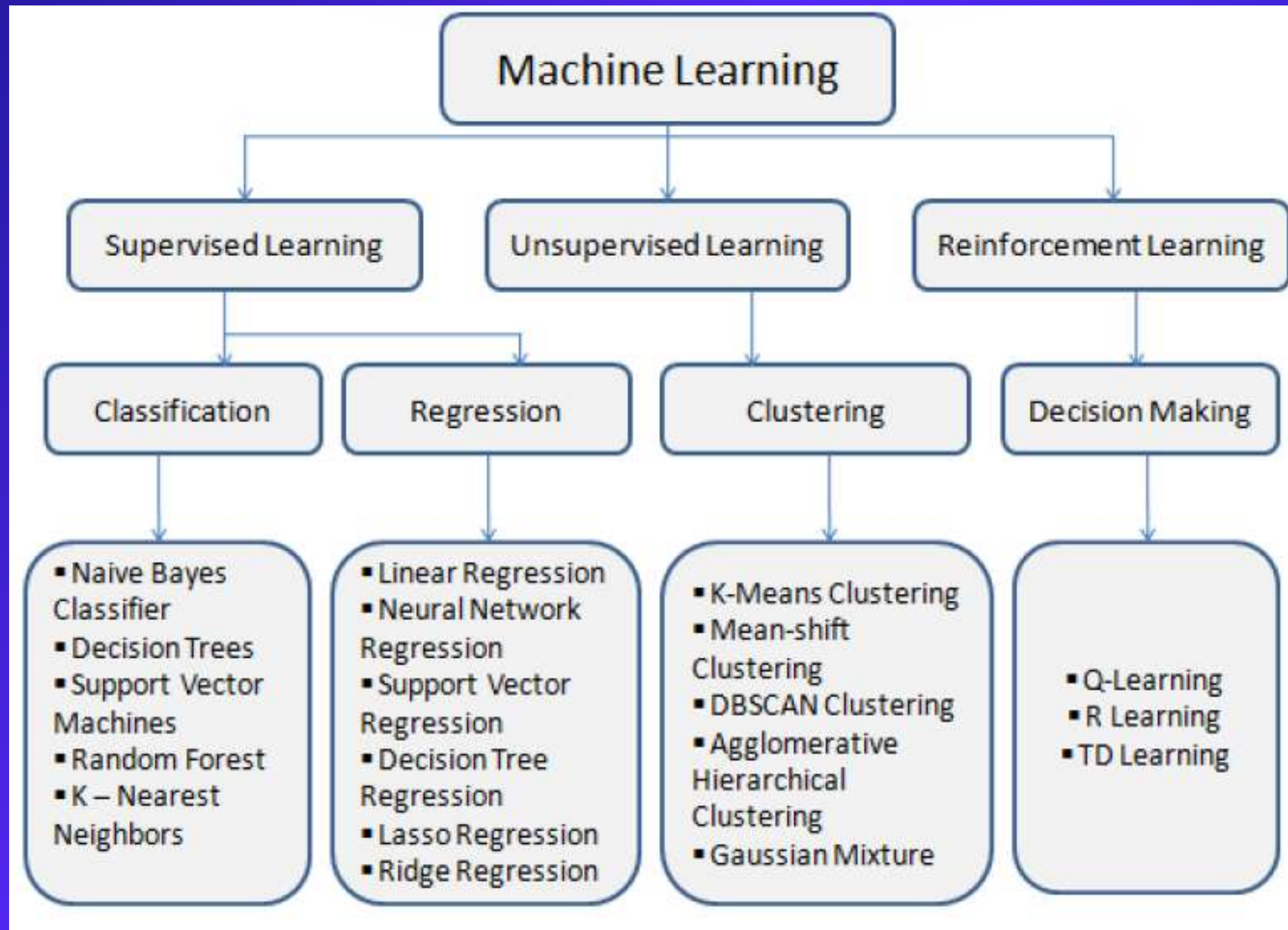
## REINFORCEMENT LEARNING

Decisive Model  
(reward-based)



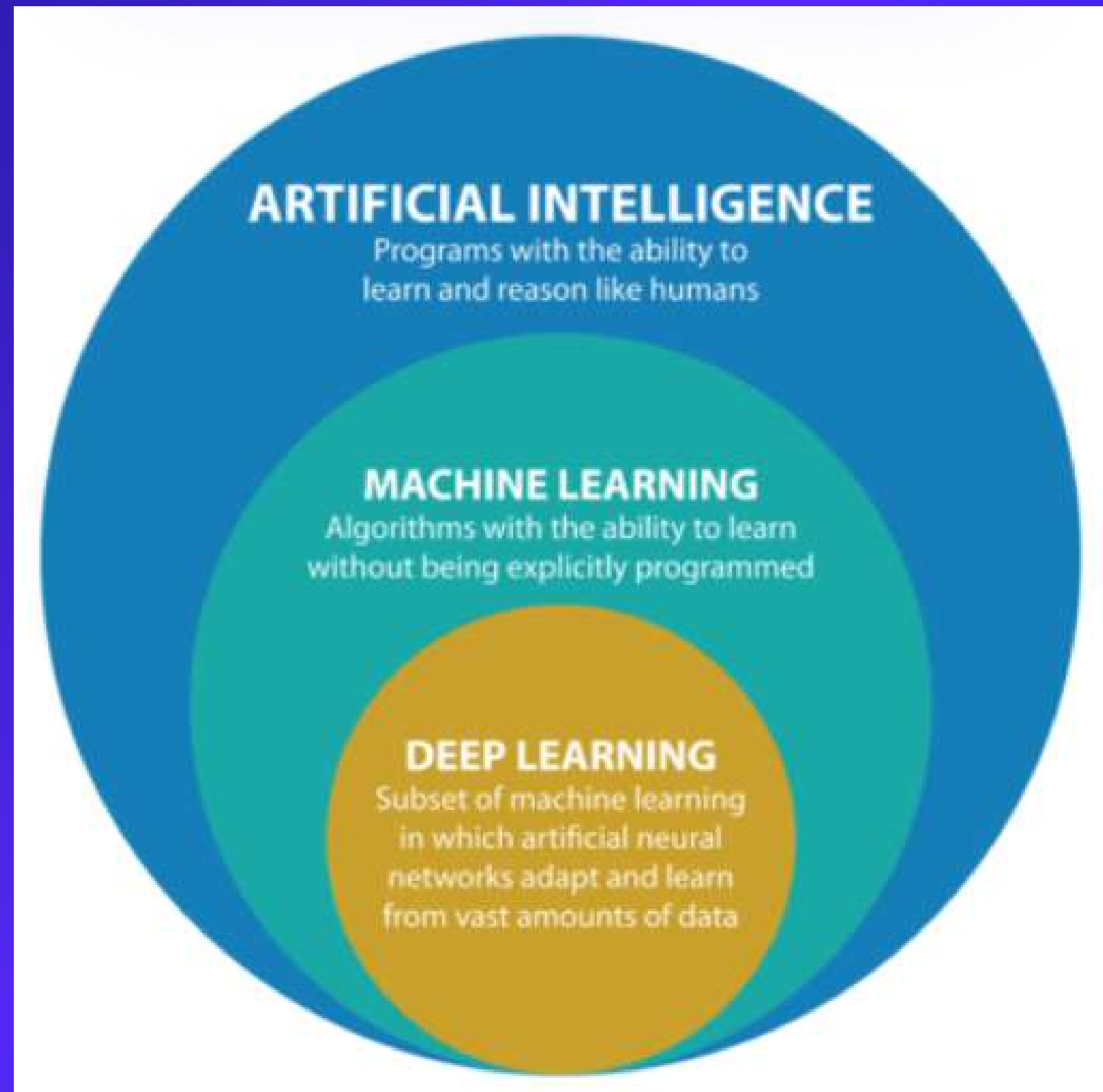


# TYPES OF AI





# AI VS ML VS DL



# ANALOGY BETWEEN MACHINES AND HUMANS

| Reality                      | Mathematical <u>modelisation</u>   |
|------------------------------|--|
| 3 Students                   | 3 Learning models : LR/RF/SVM  |
| Courses, labs, las9at ...    | Different data set   |
| Each student uses a resource | Each model on a different dataset(hna l<br><u>blan lli fkrt fih huwa n9ssm</u> data set <u>ela 4</u> ,<br>3 part for learning for each model and 4<br>for testing) |
| 2 exams                      | 2 tests  |

# What are ethics ?

- Ethics, also called moral philosophy, the discipline concerned with what is morally good and bad and morally right and wrong
- Ethics seeks to answer questions like “what is good or bad”, “what is right or what is wrong”, or “what is justice, well-being or equality”.



## **What are AI ethics (5 key pillars) ?**

- 1. Accountability (Responsible on what it does)
- 2. Reliability (we can trust it)
- 3. Explainability (we can explain how it works)
- 4. Security (from any external hack)
- 5. Privacy (respect user's Data privacy)

# WHY AI ETHICS?



THANK YOU!

