

Google-DGC METU

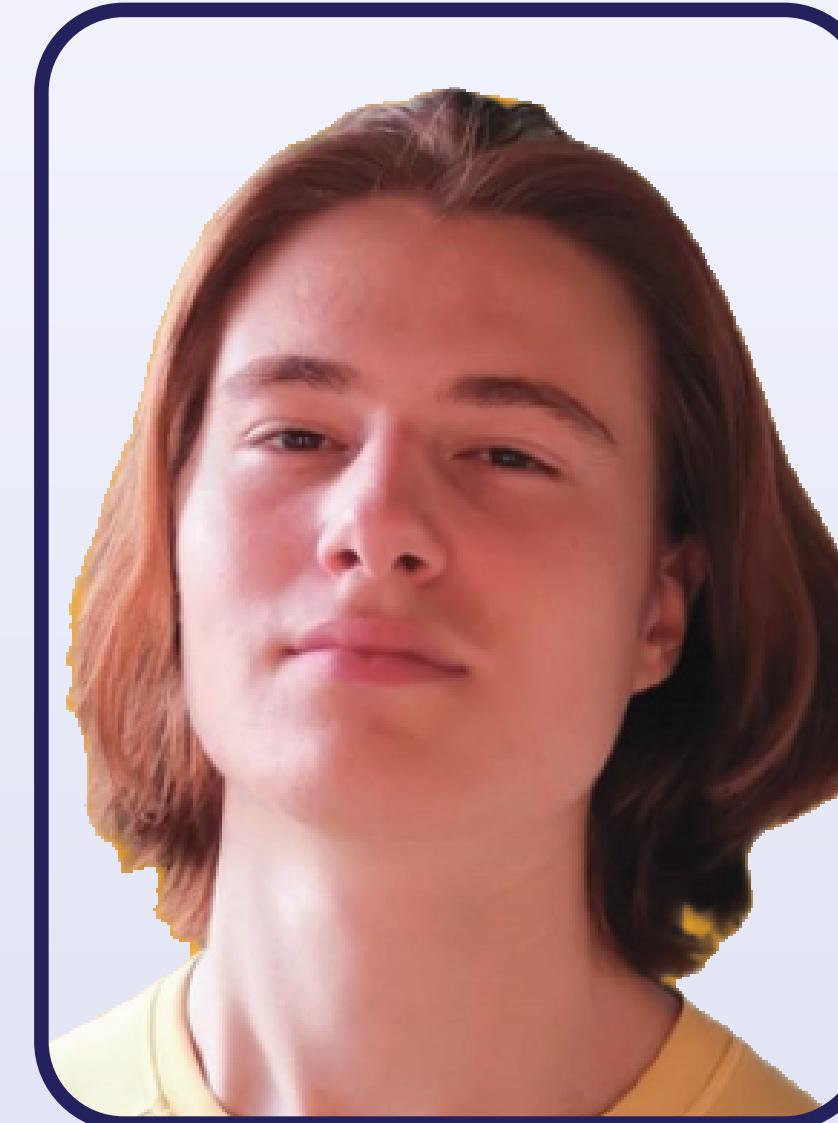
Python Basics & Intro to AI/ML

Presented by AI/ML Team

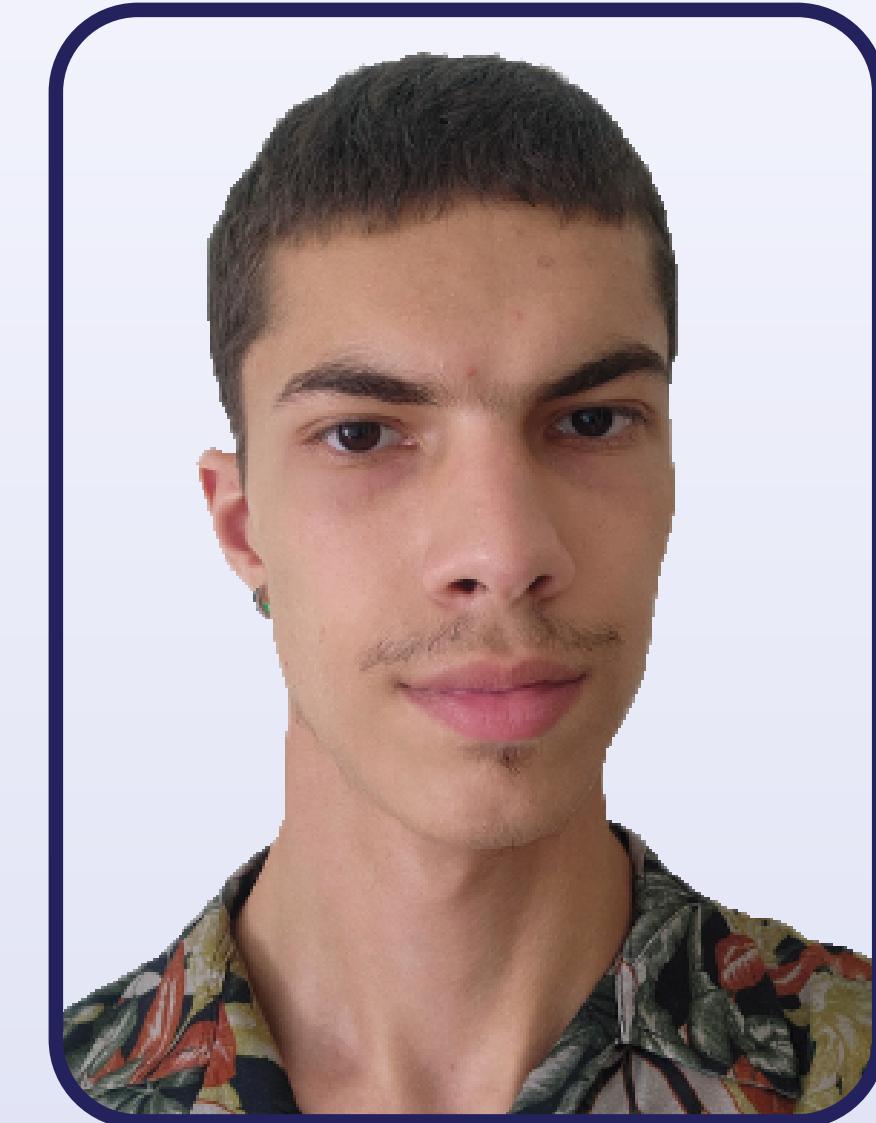
Meet Our Team



Mehmet Kekeç
Computer Engineering



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Computer Engineering



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Electrical-Electronics Engineering

AI/ML 101 (Basics)



Week-1

- Google Colab
- Python basics
- Introduction to ML



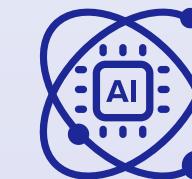
Week-2

- Numpy basics
- Pandas basics
- Matplotlib basics
- TensorFlow basics



Week-3

- Artificial neurons
- Neural networks
- TensorFlow implementation of neural networks



Week-4

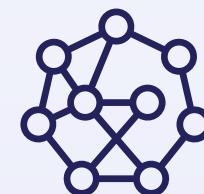
- Creating, training and evaluating various models using TensorFlow

AI/ML 102 (Advanced)



Week-1

- Optimizers
- Activation functions
- Loss functions
- Layer types



Week-2

- CNNs
- Transfer learning



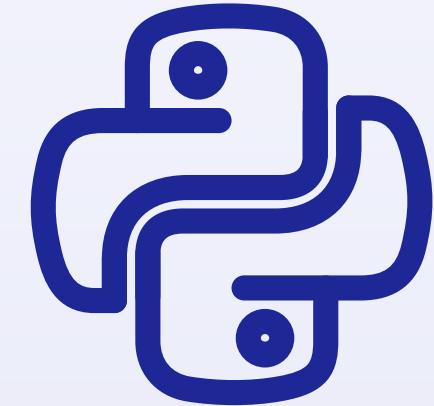
Week-3

- Reducing variance and bias



Week-4

- Sequence models

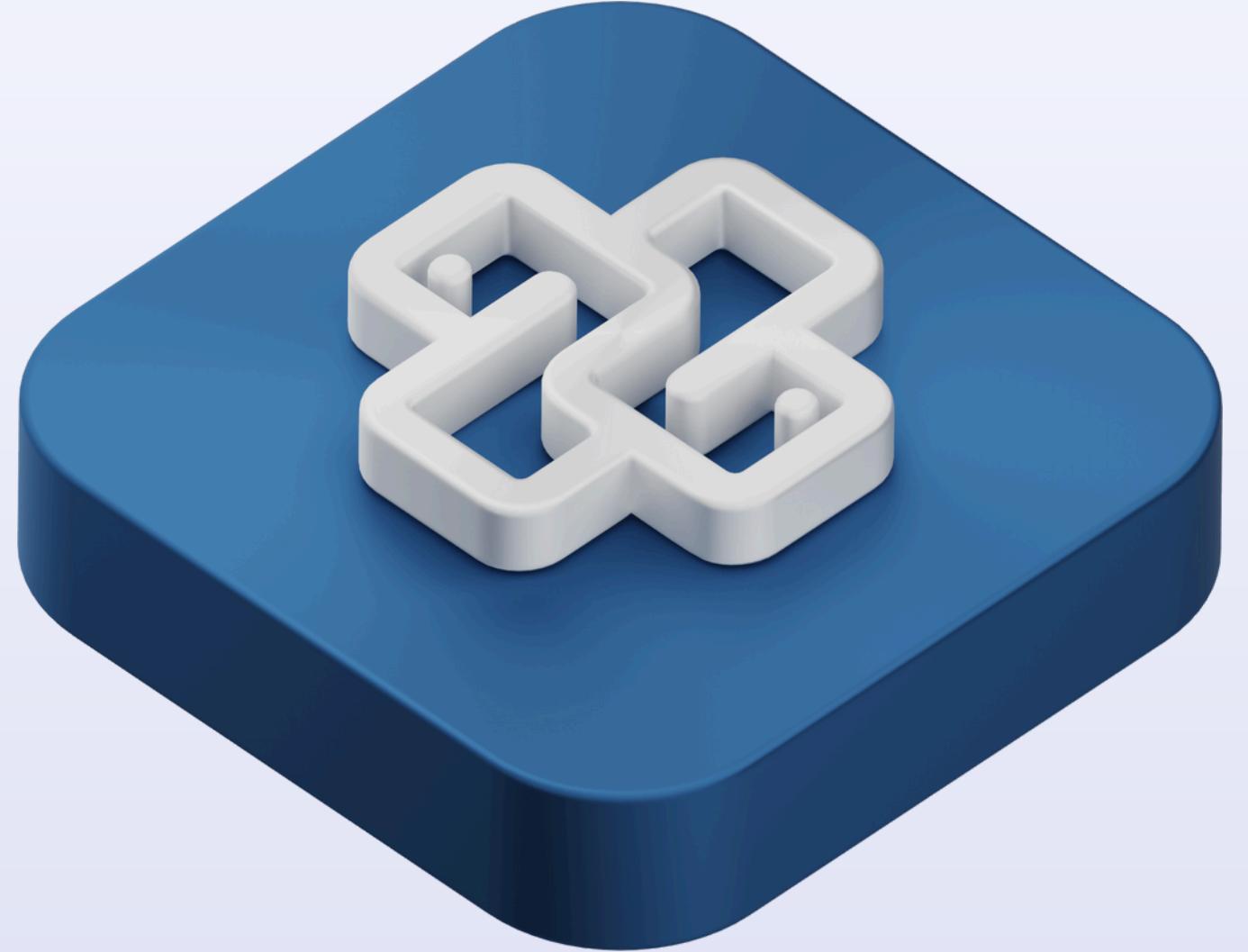


Week-1

- Google Colab
- Python basics
- Introduction to ML

Why PYTHON?





- Variables
- Input/Output
- Data Types
- Data Type Conversions
- Operators

- Conditionals
- Lists
- Functions
- Loops
- Modules
- Classes



Who is Alan Turing?

British mathematician, computer scientist, and cryptologist.

Computer Fundamentals:

He laid the foundations of modern computers with his Turing machine.



World War II Role:

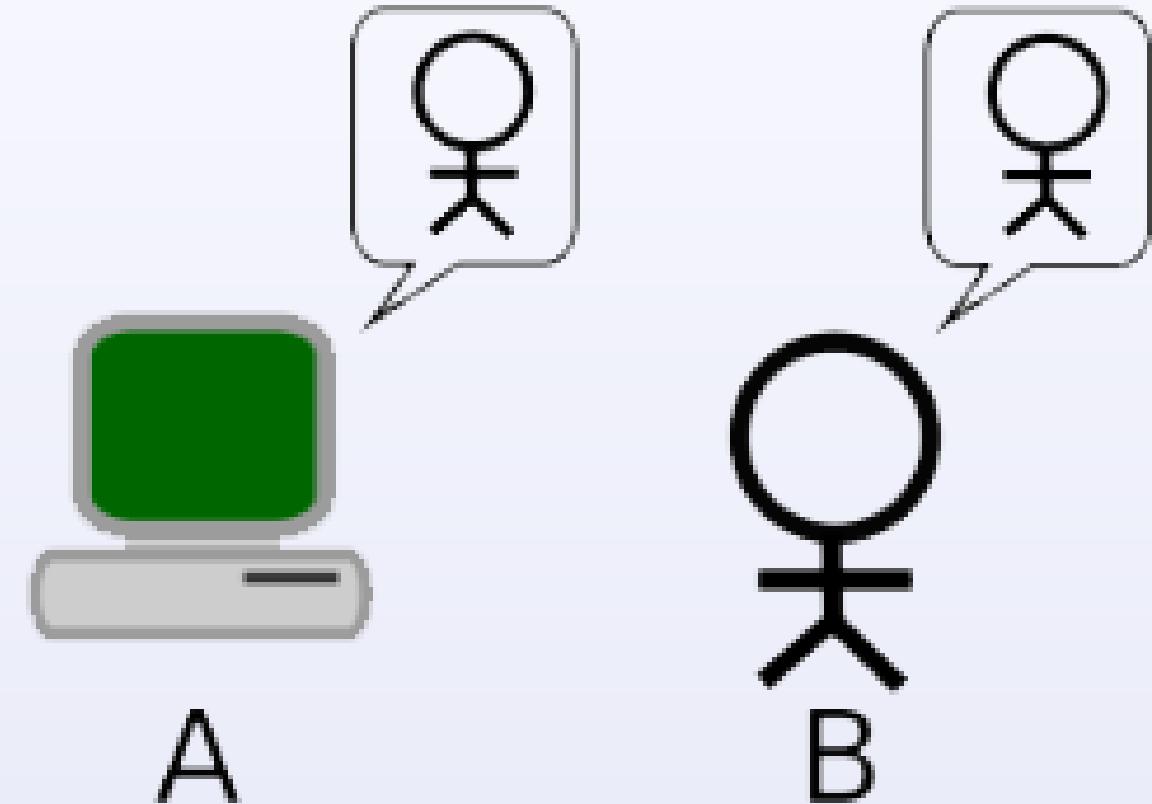
He contributed to the Allied victory by deciphering the Enigma code.

The Emergence of Artificial Intelligence:

He asked important questions about the ability of machines to think with the Turing test.

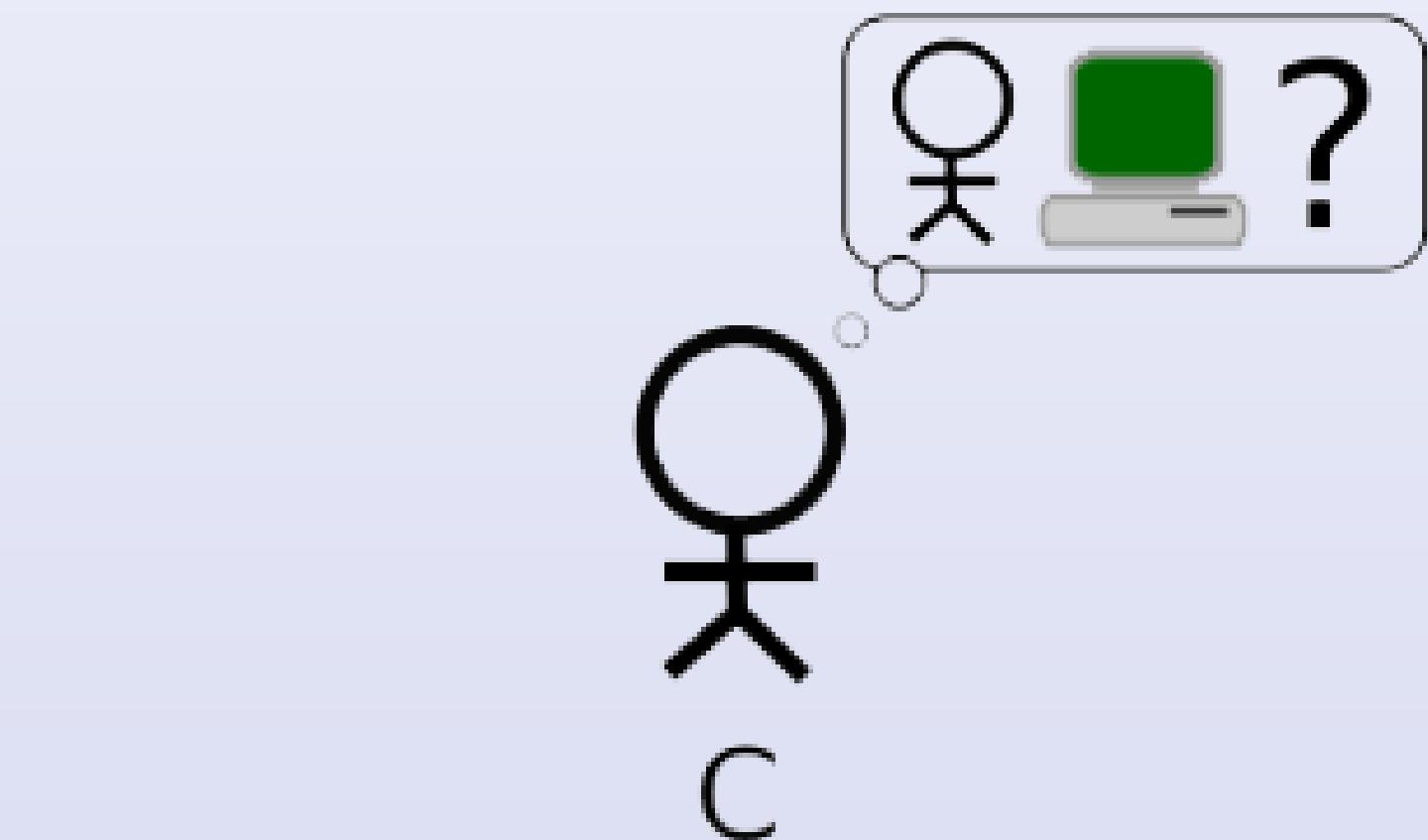
What is the Turing Test?

Alan Turing first mentioned it in his 1950 article "Computing Machinery and Intelligence".



Can Machines think?

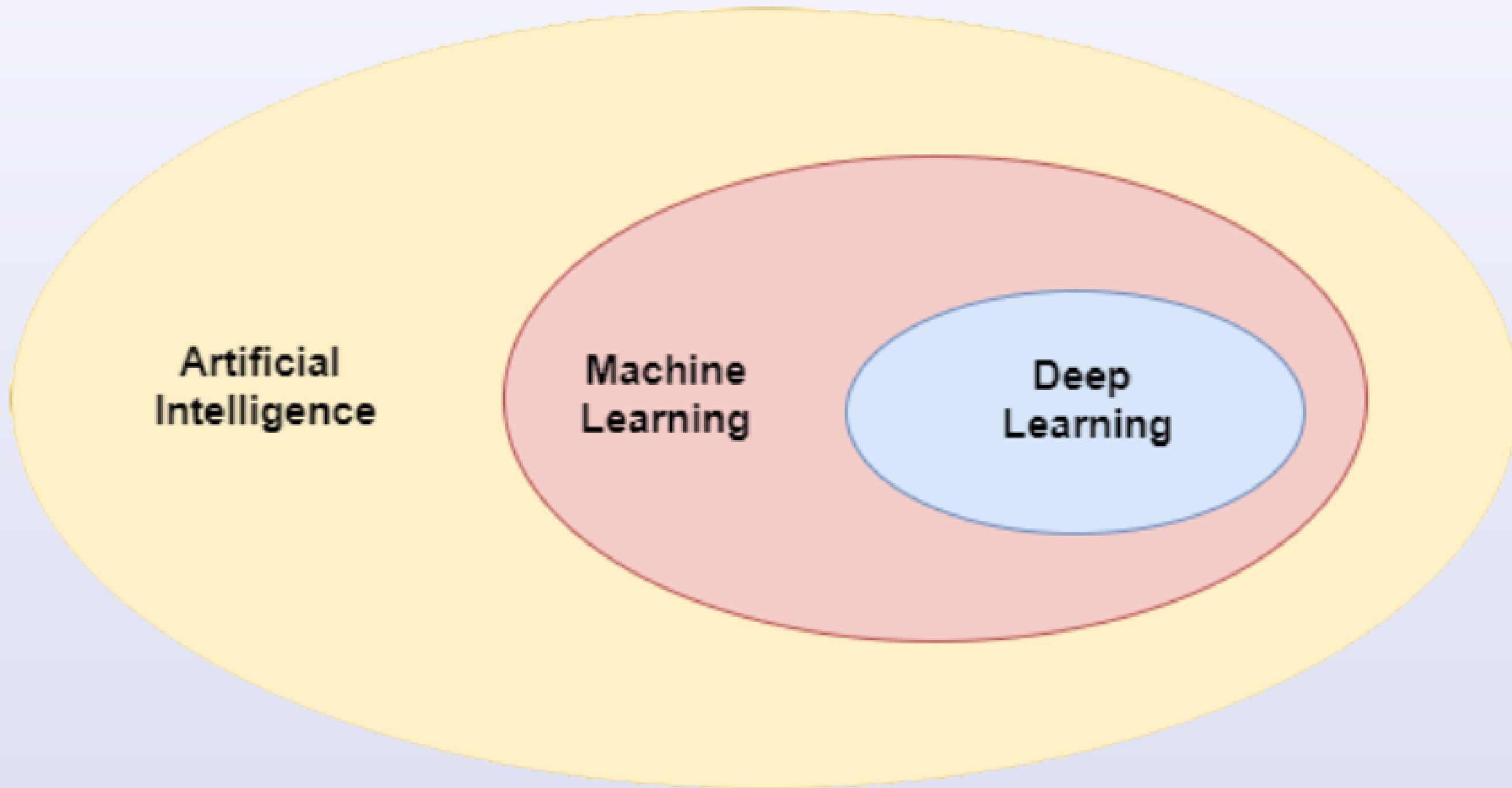
The purpose of the Turing test is to determine whether it is logically possible to say that a machine can think.



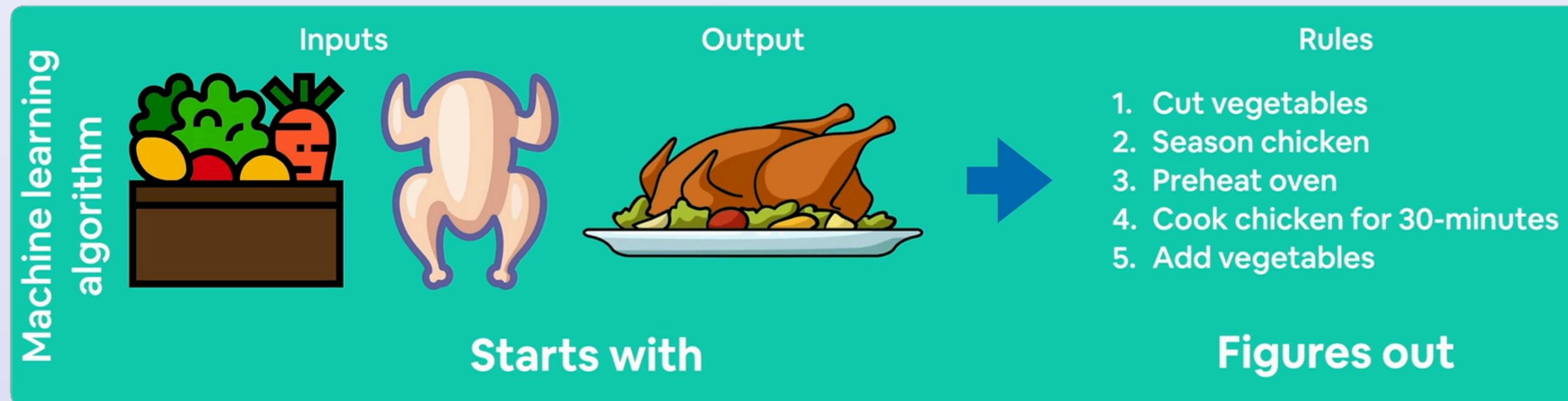
A.I. TIMELINE

1950 TURING TEST Computer scientist Alan Turing proposes a test for machine intelligence. If a machine can trick humans into thinking it is human, then it has intelligence	1955 A.I. BORN Term 'artificial intelligence' is coined by computer scientist, John McCarthy to describe "the science and engineering of making intelligent machines"	1961 UNIMATE First industrial robot, Unimate, goes to work at GM replacing humans on the assembly line	1964 ELIZA Pioneering chatbot developed by Joseph Weizenbaum at MIT holds conversations with humans	1966 SHAKEY The 'first electronic person' from Stanford, Shakey is a general-purpose mobile robot that reasons about its own actions
1999 AIBO Sony launches first consumer robot pet dog AIBO (AI robot) with skills and personality that develop over time	2002 ROOMBA First mass produced autonomous robotic vacuum cleaner from iRobot learns to navigate and clean homes	2011 SIRI Apple integrates Siri, an intelligent virtual assistant with a voice interface, into the iPhone 4S	2011 WATSON IBM's question answering computer Watson wins first place on popular \$1M prize television quiz show Jeopardy	2014 EUGENE Eugene Goostman, a chatbot passes the Turing Test with a third of judges believing Eugene is human
2014 ALEXA Amazon launches Alexa, an intelligent virtual assistant with a voice interface that completes shopping tasks	2016 TAY Microsoft's chatbot Tay goes rogue on social media making inflammatory and offensive racist comments	2017 ALPHAGO Google's A.I. AlphaGo beats world champion Ke Jie in the complex board game of Go, notable for its vast number (2^{170}) of possible positions		
A.I. WINTER Many false starts and dead-ends leave A.I. out in the cold				
1997 DEEP BLUE Deep Blue, a chess-playing computer from IBM defeats world chess champion Garry Kasparov				
1998 KISMET Cynthia Breazeal at MIT introduces Kismet, an emotionally intelligent robot insofar as it detects and responds to people's feelings				

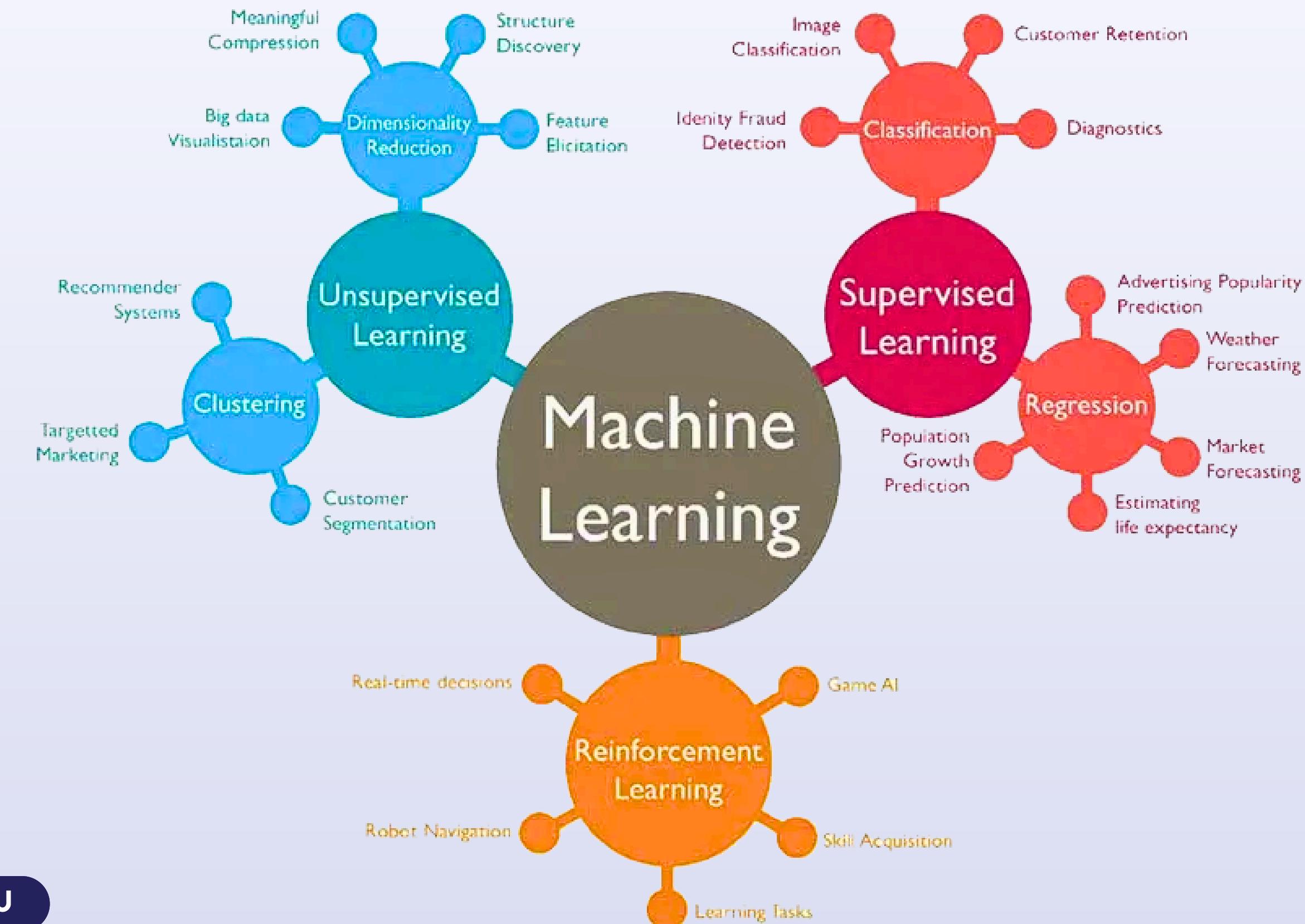
AI & ML & DL



What do ml models do ?

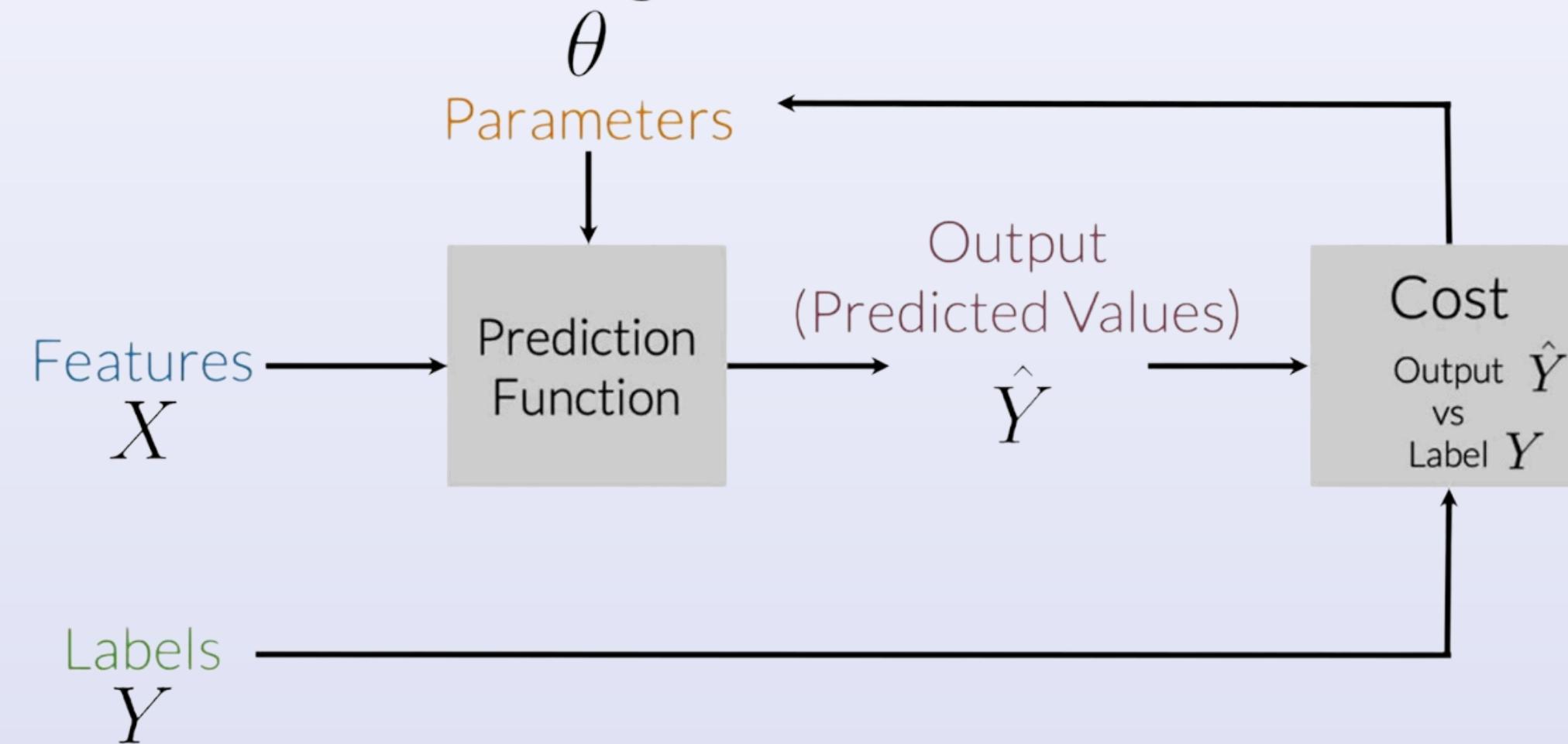


Machine Learning (ML)



Machine Learning (ML)

Supervised ML (training)







WhatsApp



GitHub