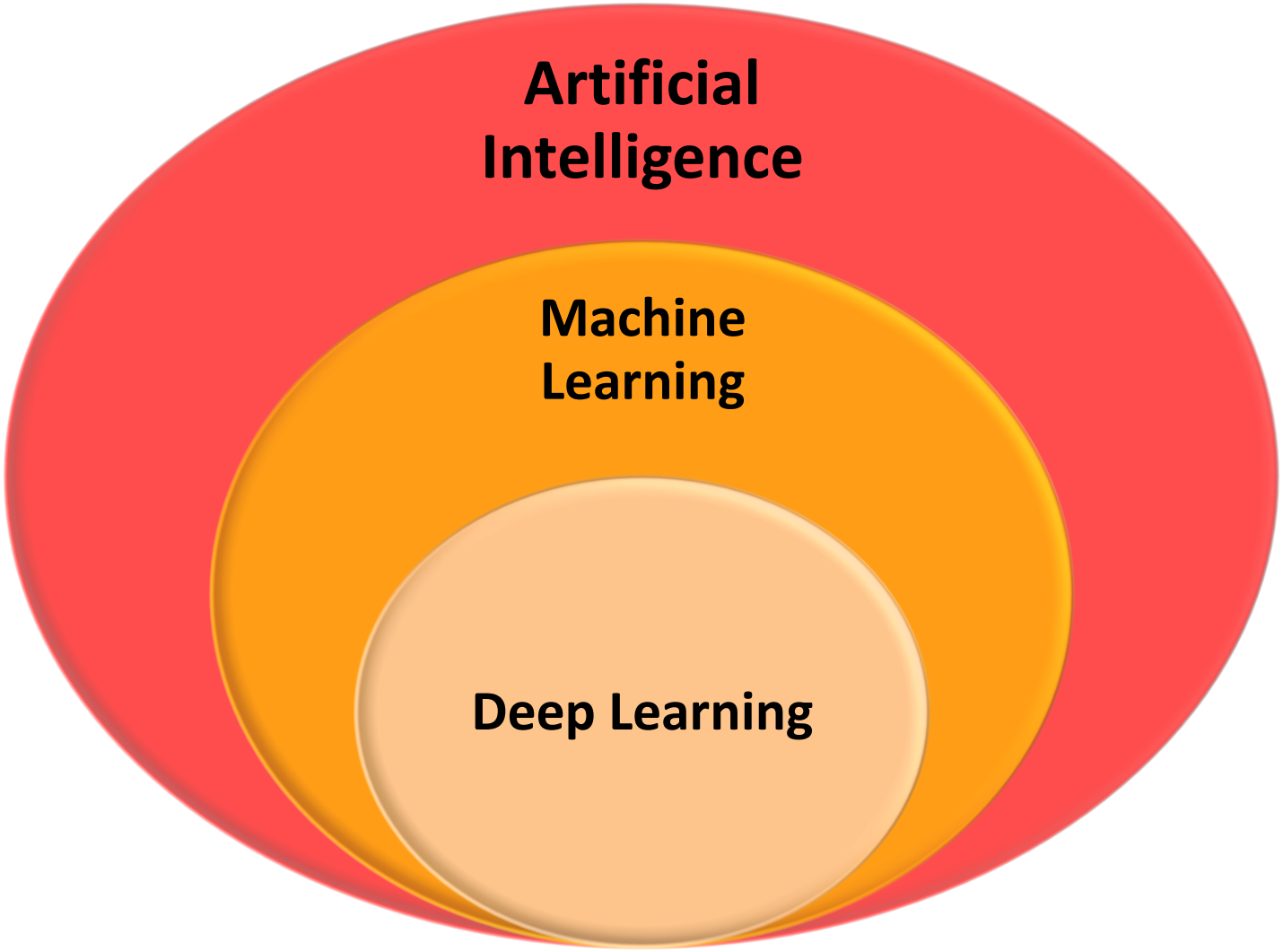
# DataScience

## Machine Learning
## Implement & Deploy

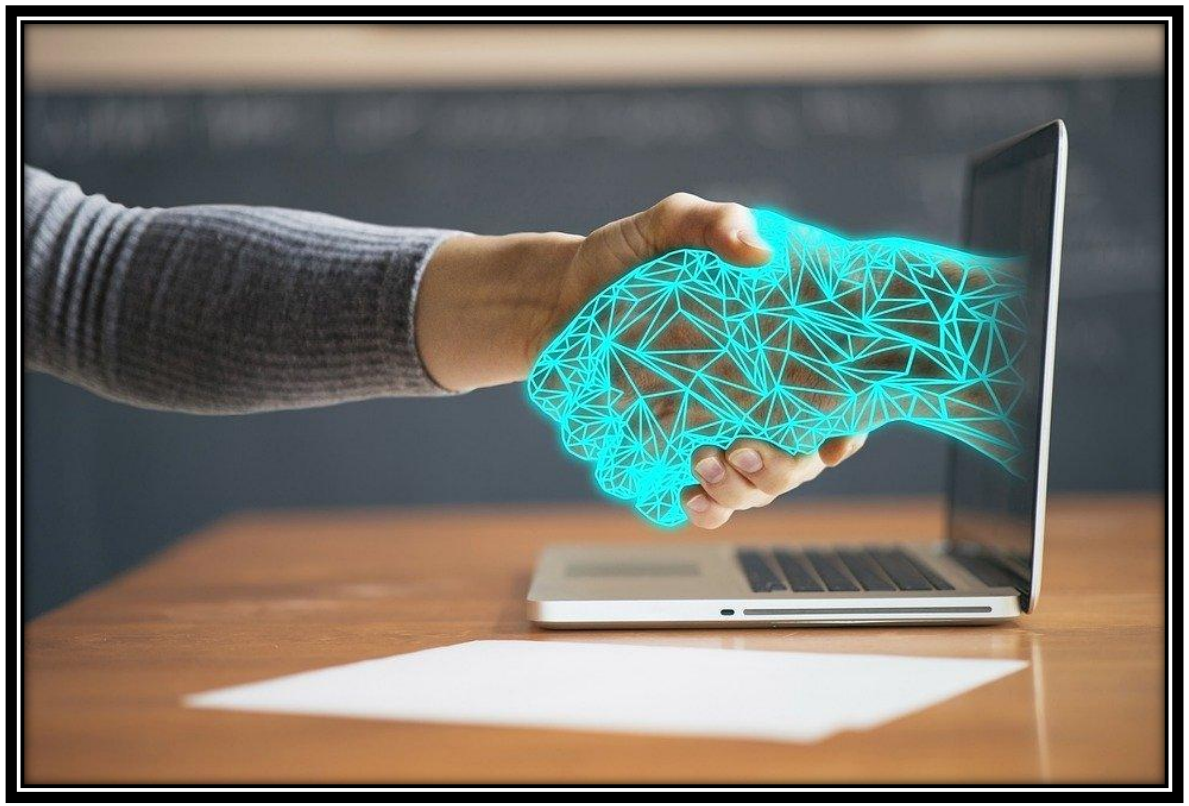
# *DataScience*



# *Artificial Intelligence*

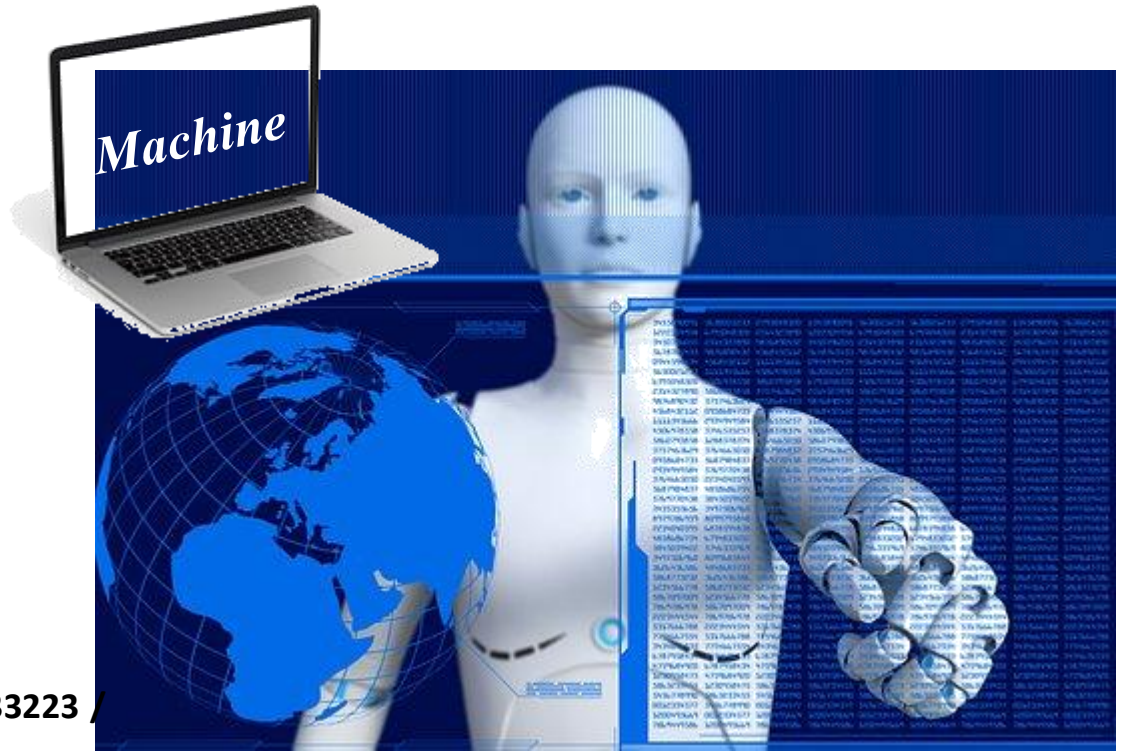
A concise definition of **AI :**

***“ The effort to automate intellectual tasks normally performed by humans. “***



# *Machine Learning*

- *Machine learning is the systematic study of algorithms and systems that improve their knowledge or performance with experience.*

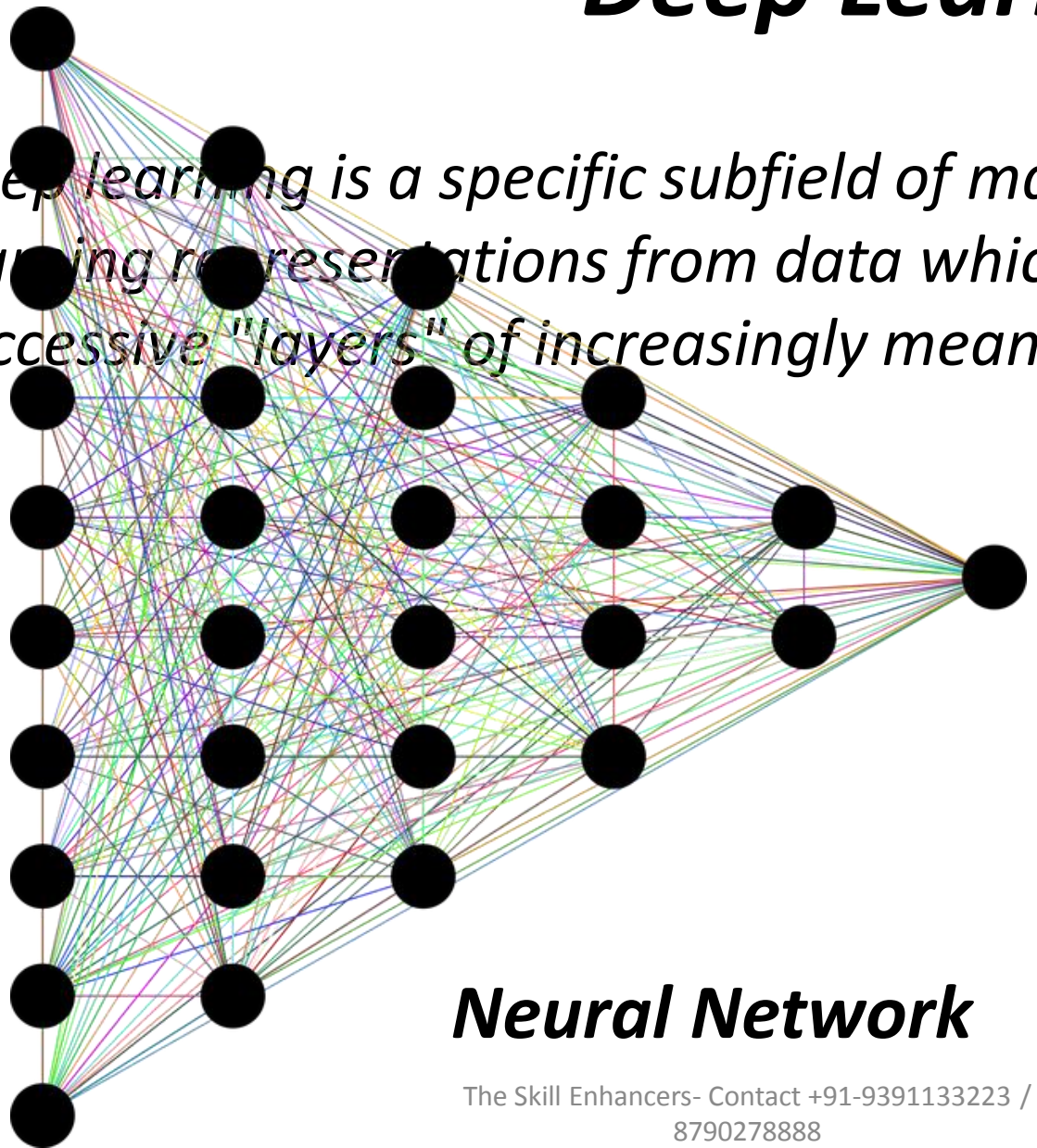


# *Machine Learning*

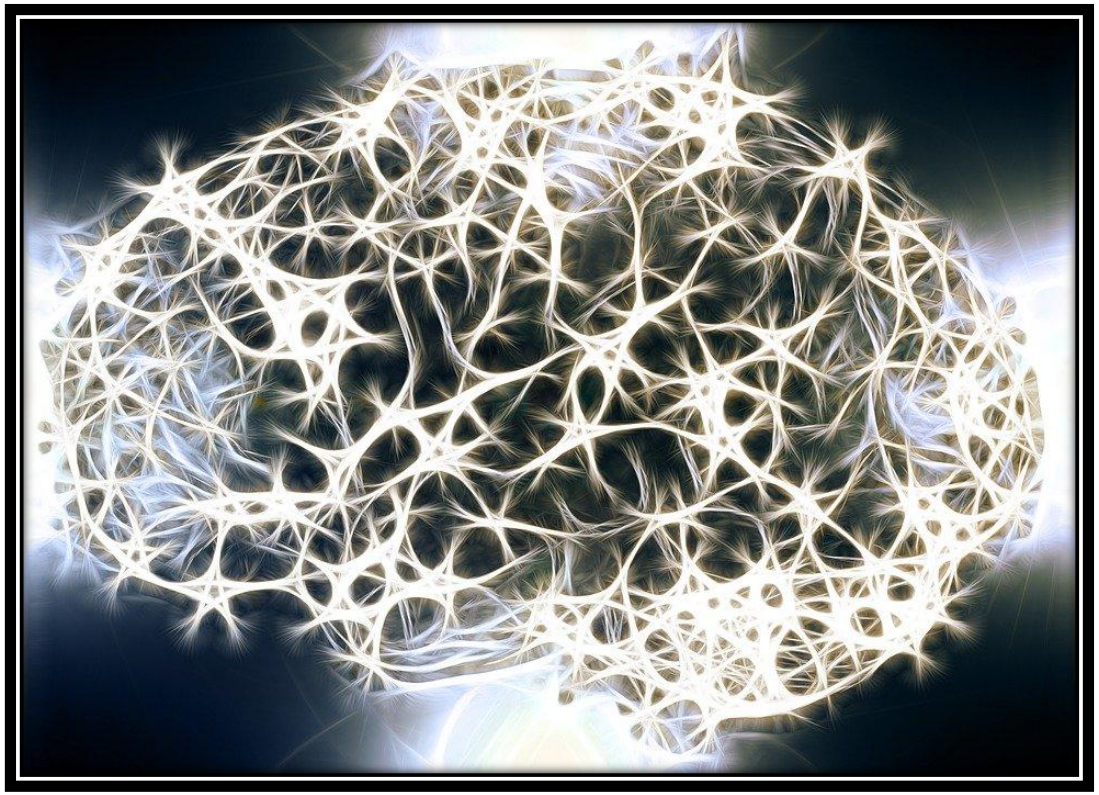
- *A machine learning system is "trained" rather than explicitly programmed. It is presented with many "examples" relevant to a task, and it finds statistical structure in these examples which eventually allows the system to come up with rules for automating the task.*

# *Deep Learning*

- *Deep learning is a specific subfield of machine learning, a new take on learning representations from data which puts an emphasis on learning successive "layers" of increasingly meaningful representations.*

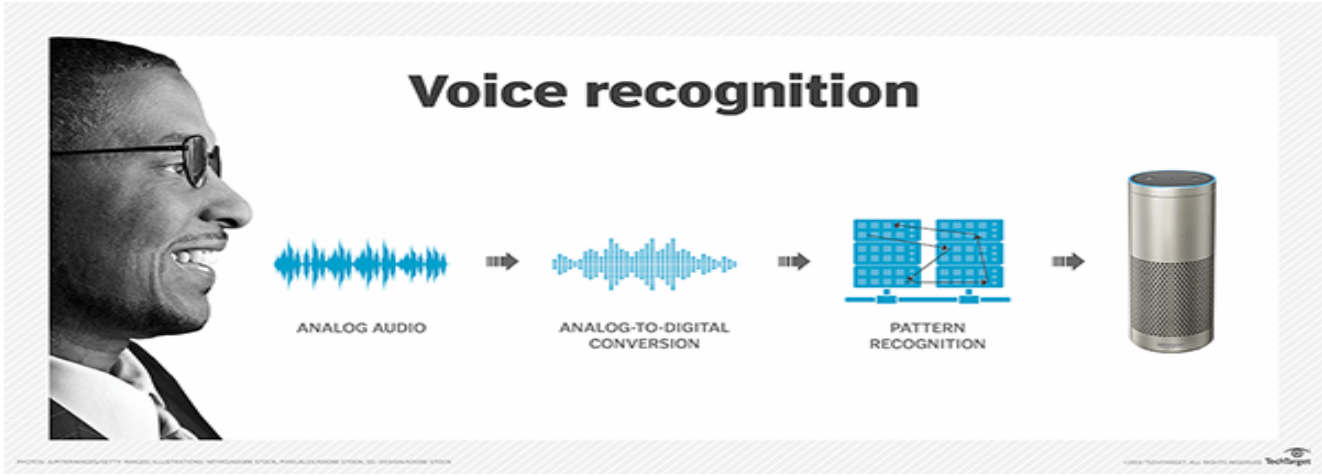


***Neural Network***



# ML Use Cases

***Spam Filters***

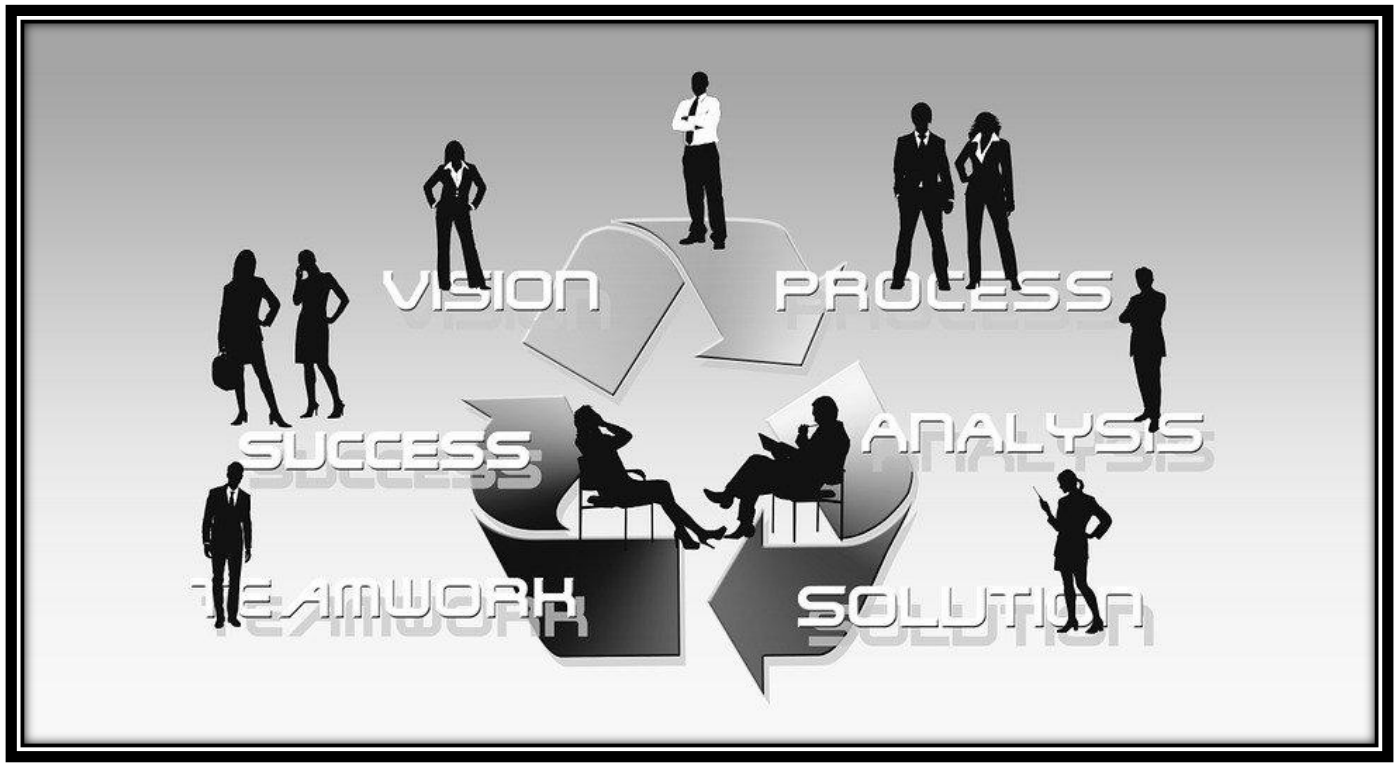




***Computer Games***

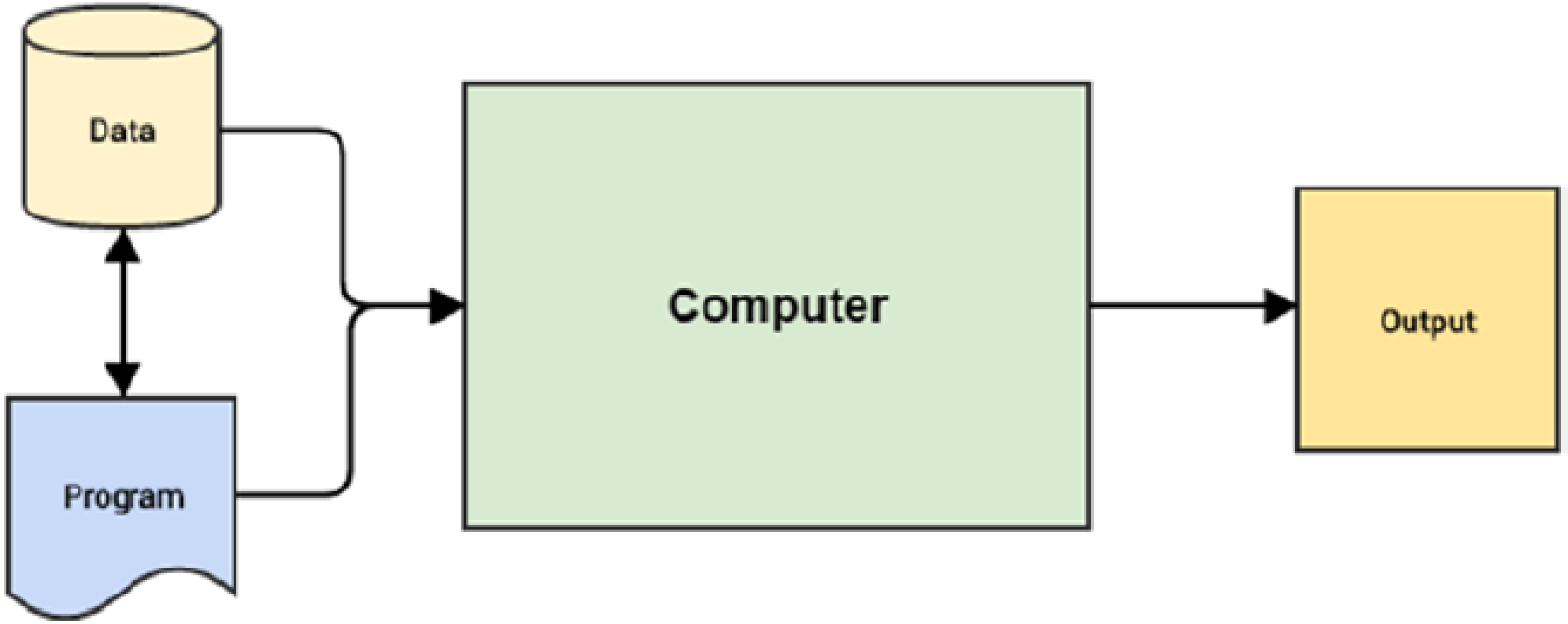
***Algorithm to decide whether bank will give loan or not***

# *The Need for Machine Learning*

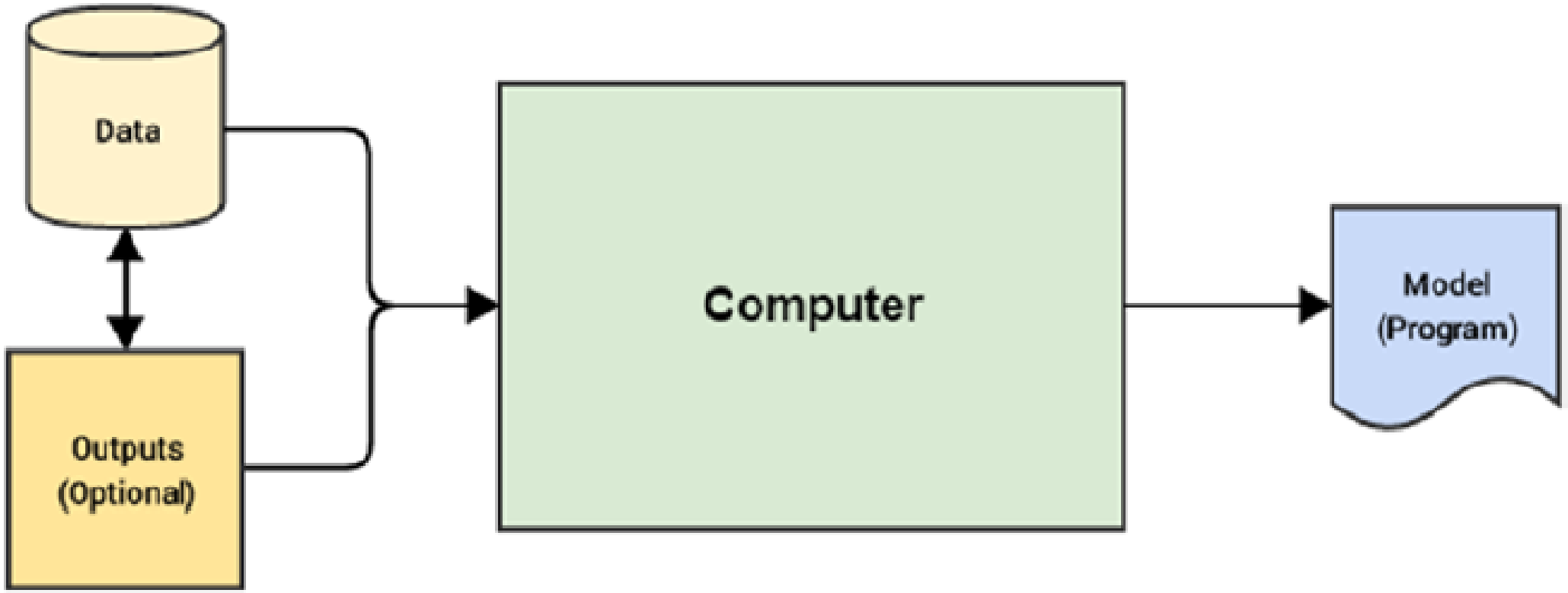
- ***Making Data-Driven Decisions***
- ***Efficiency and Scale***



# *Traditional Programming Paradigm*



# *Machine Learning Paradigm*

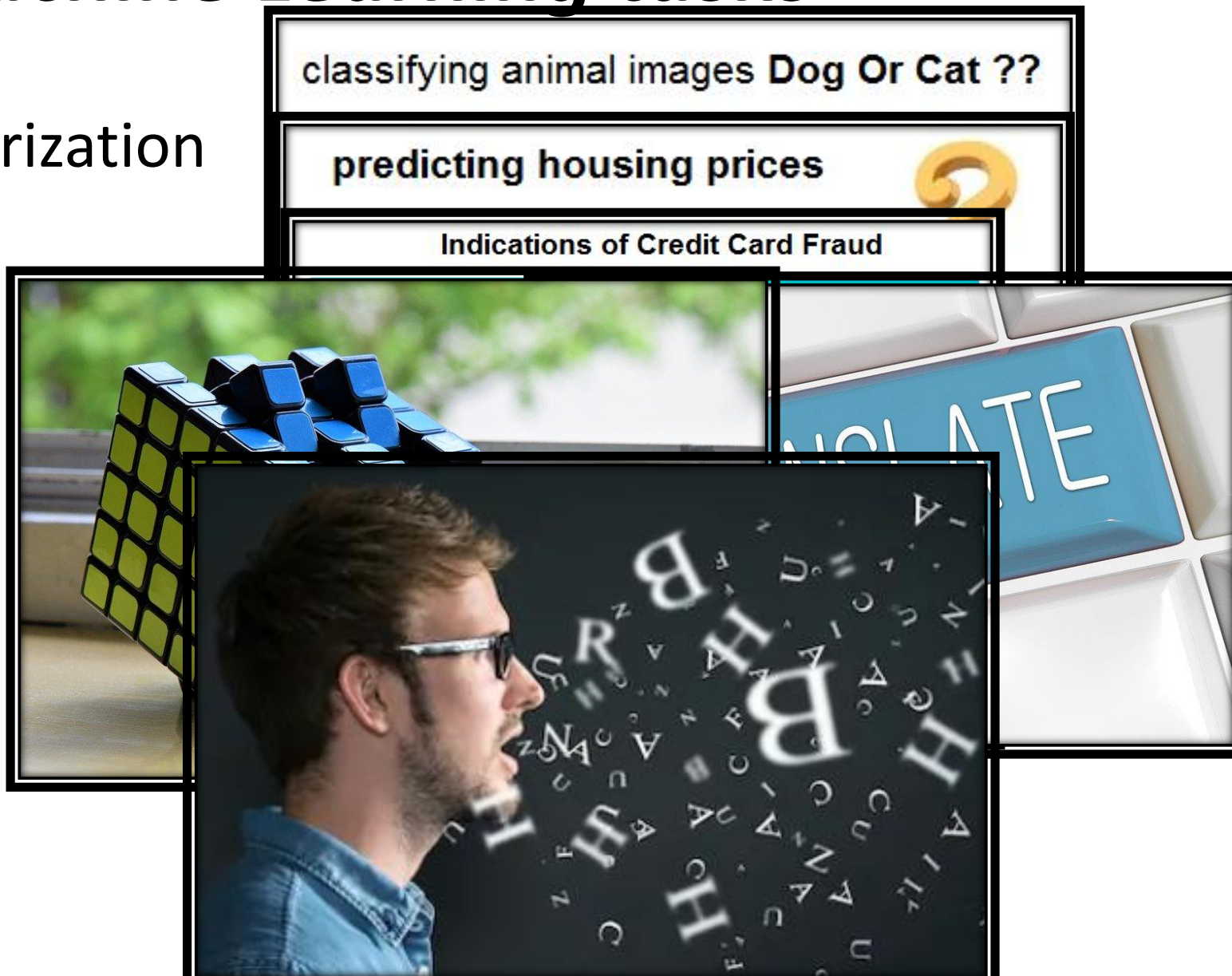


# *Why Make Machines Learn?*

- ***Lack of Human expertise***
- ***Scenarios and behaviour can keep changing over time***
- ***Extremely difficult to explain or translate expertise into computational tasks***
- ***Huge volumes of data with too many complex conditions and constraints.***

# *Typical Machine Learning tasks*

- Classification or categorization
- Regression
- Anomaly detection
- Translation
- Clustering or grouping
- Transcriptions



# *Machine Learning*

- ***Supervised Learning***
- ***Unsupervised Learning***