

Machine Learning In Python

Subject : Introduction of Machine Learning

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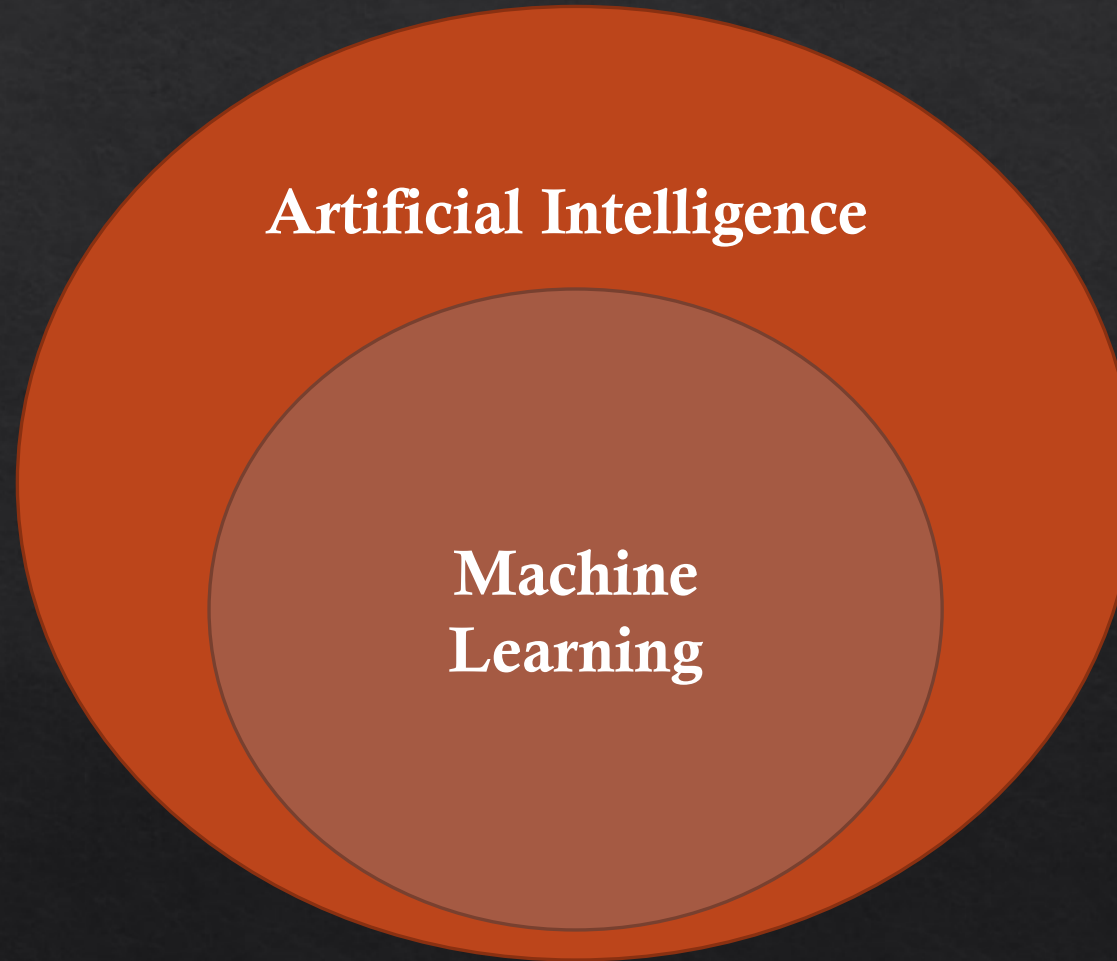
Winter 2020

Introduction of Machine Learning



Artificial Intelligence is the broader concept of machines being able to carry out tasks in a way that we would consider “smart”.

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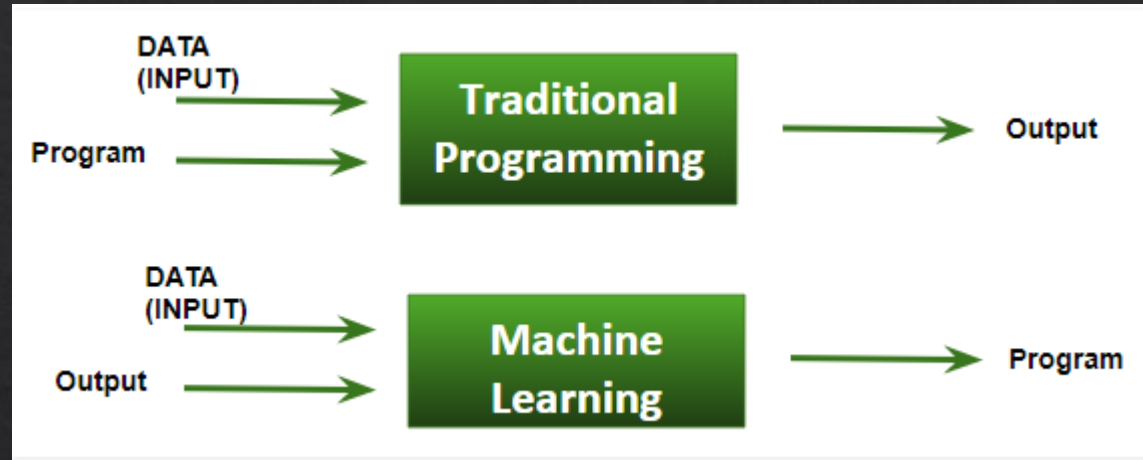


Introduction of Machine Learning



Machine Learning is the field of Artificial Intelligence that gives computers the capability to learn without being explicitly programmed.

Introduction of Machine Learning



Basic Difference in ML and Traditional Programming?

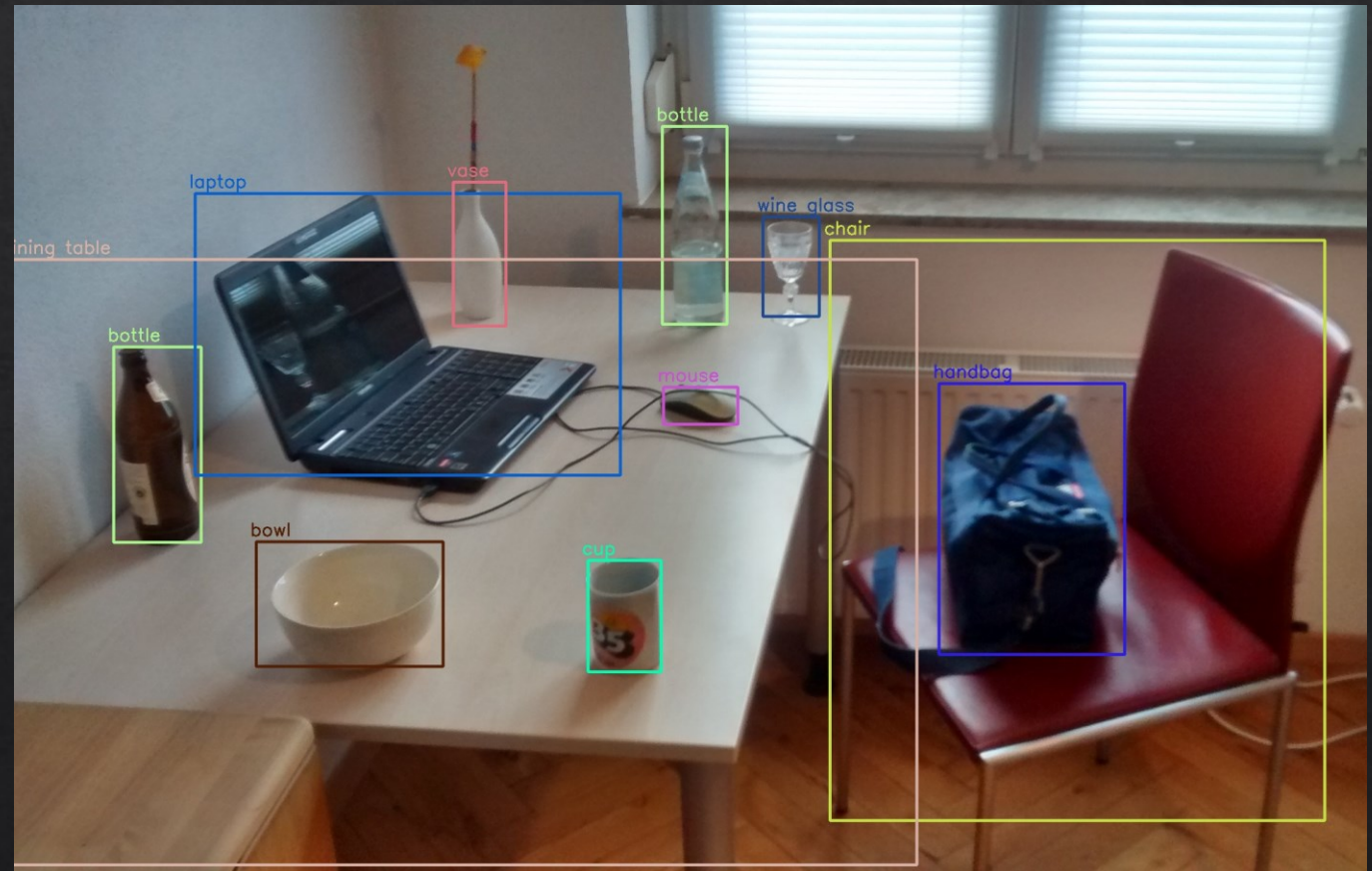
Traditional Programming : We feed in DATA (Input) + PROGRAM (logic), run it on machine and get output.

Machine Learning : We feed in DATA(Input) + Output, run it on machine during training and the machine creates its own program(logic), which can be evaluated while testing.

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Machine Learning Applications

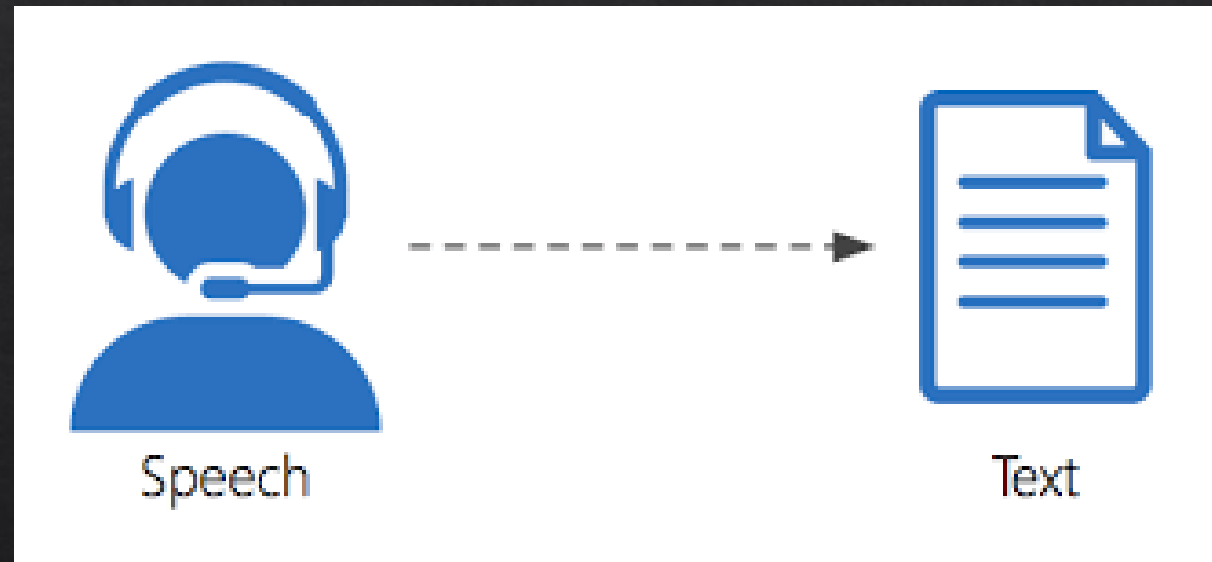
Object Recognition



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Machine Learning Applications

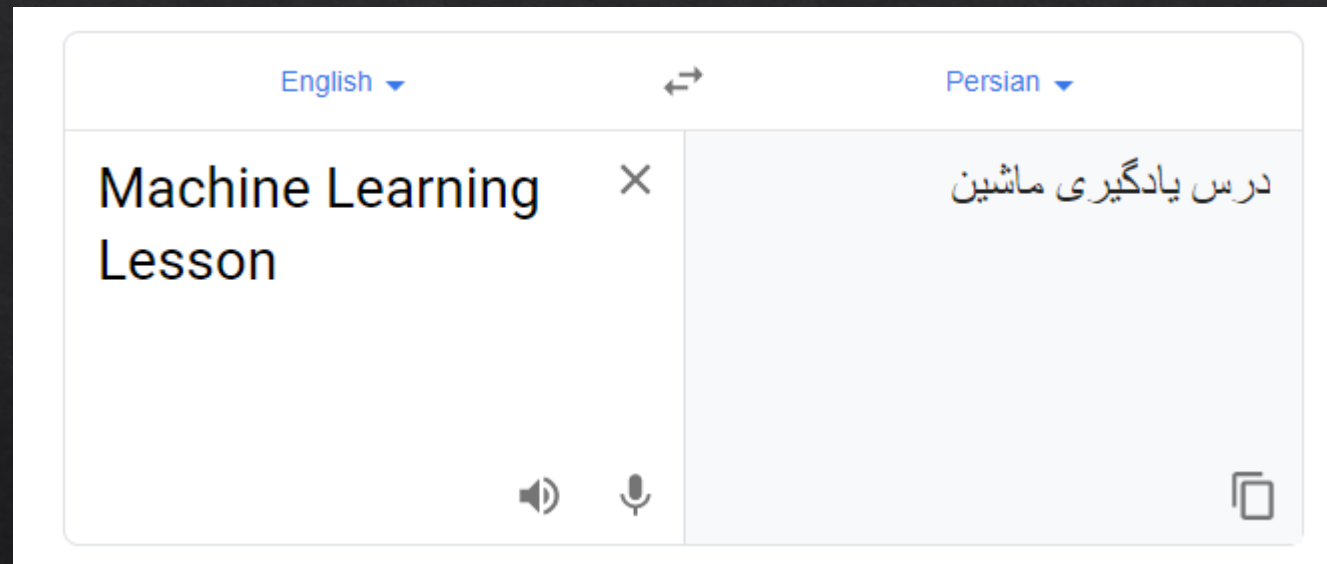
Speech Recognition



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Machine Learning Applications

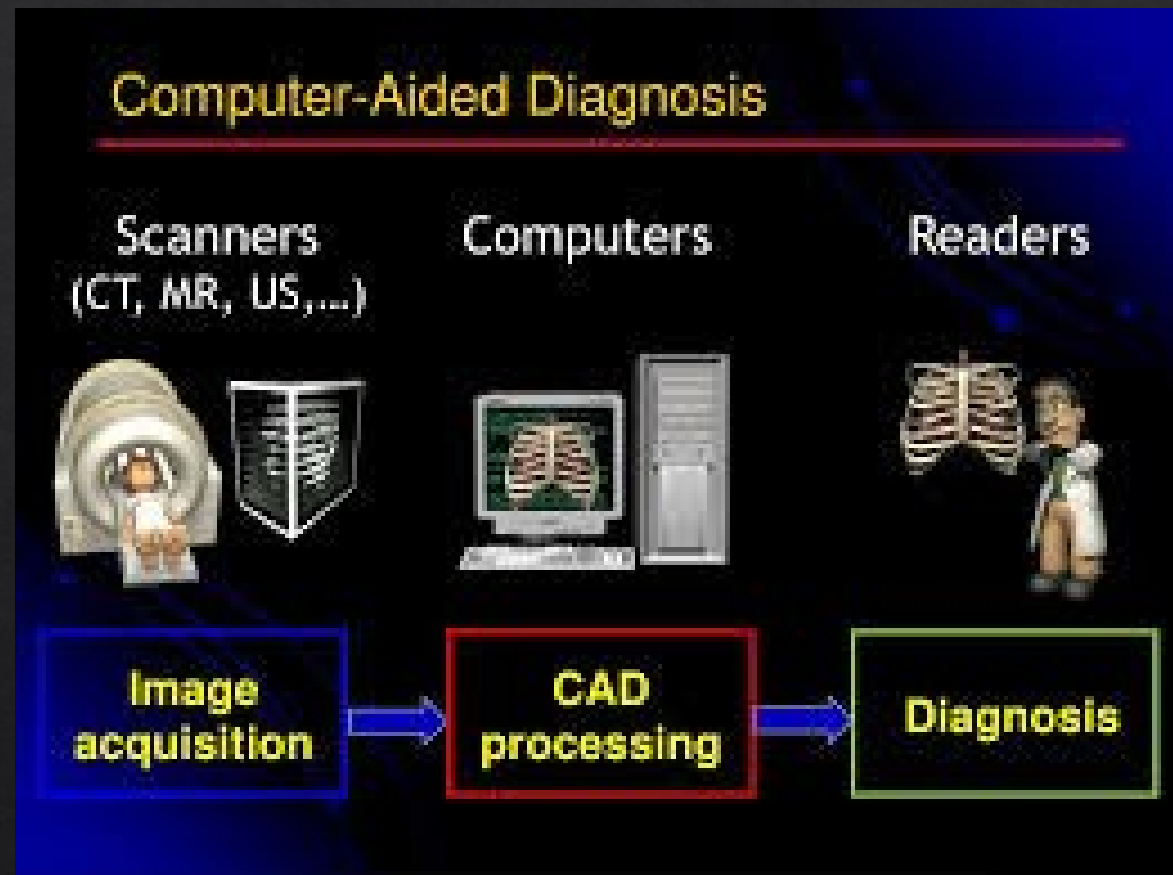
Text Analysis



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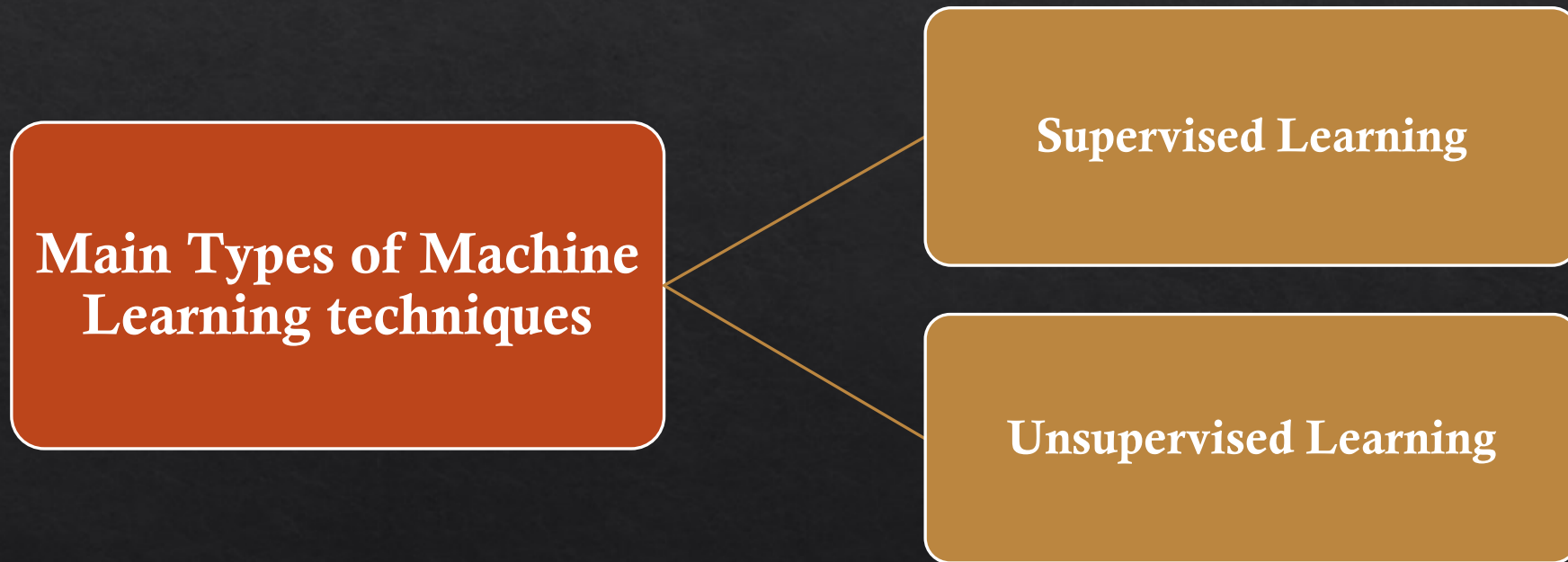
Machine Learning Applications

Medical Diagnosis



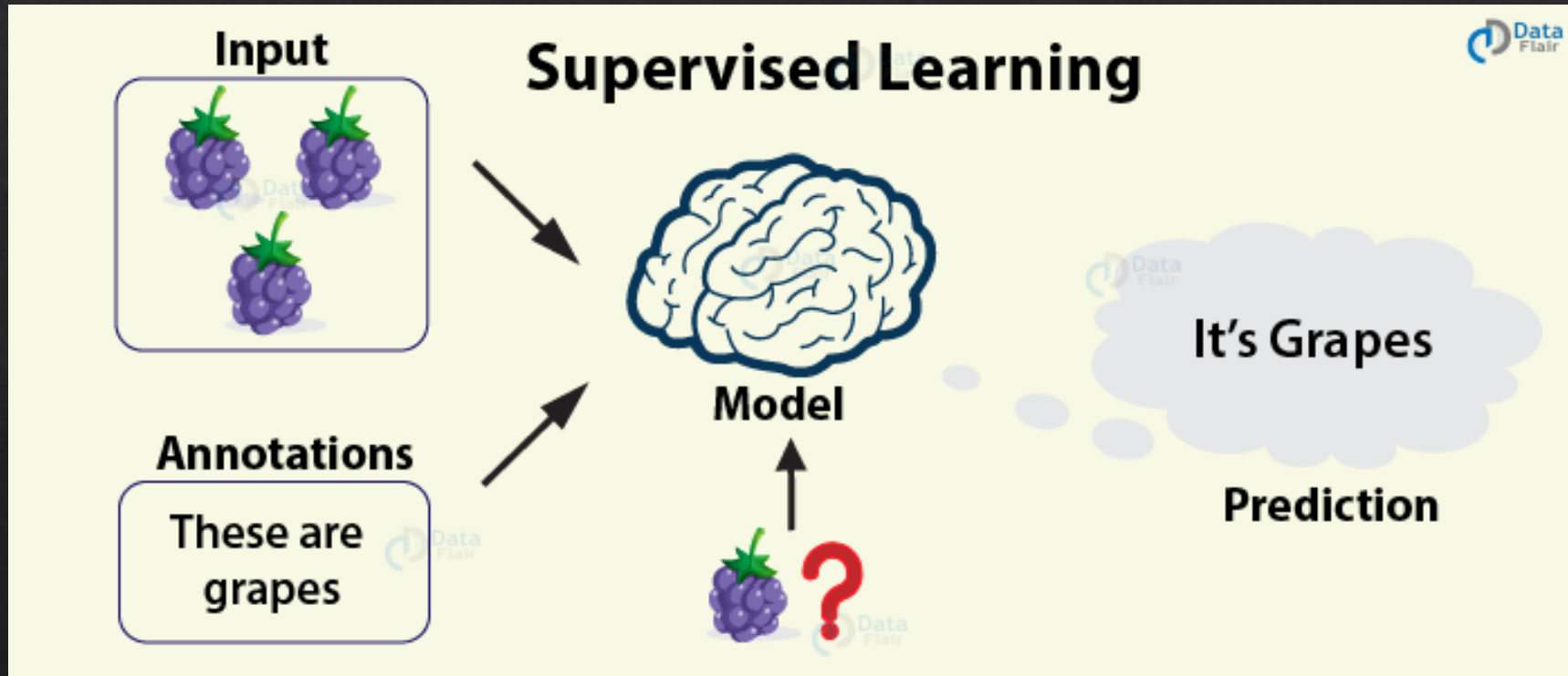
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Types of Machine Learning



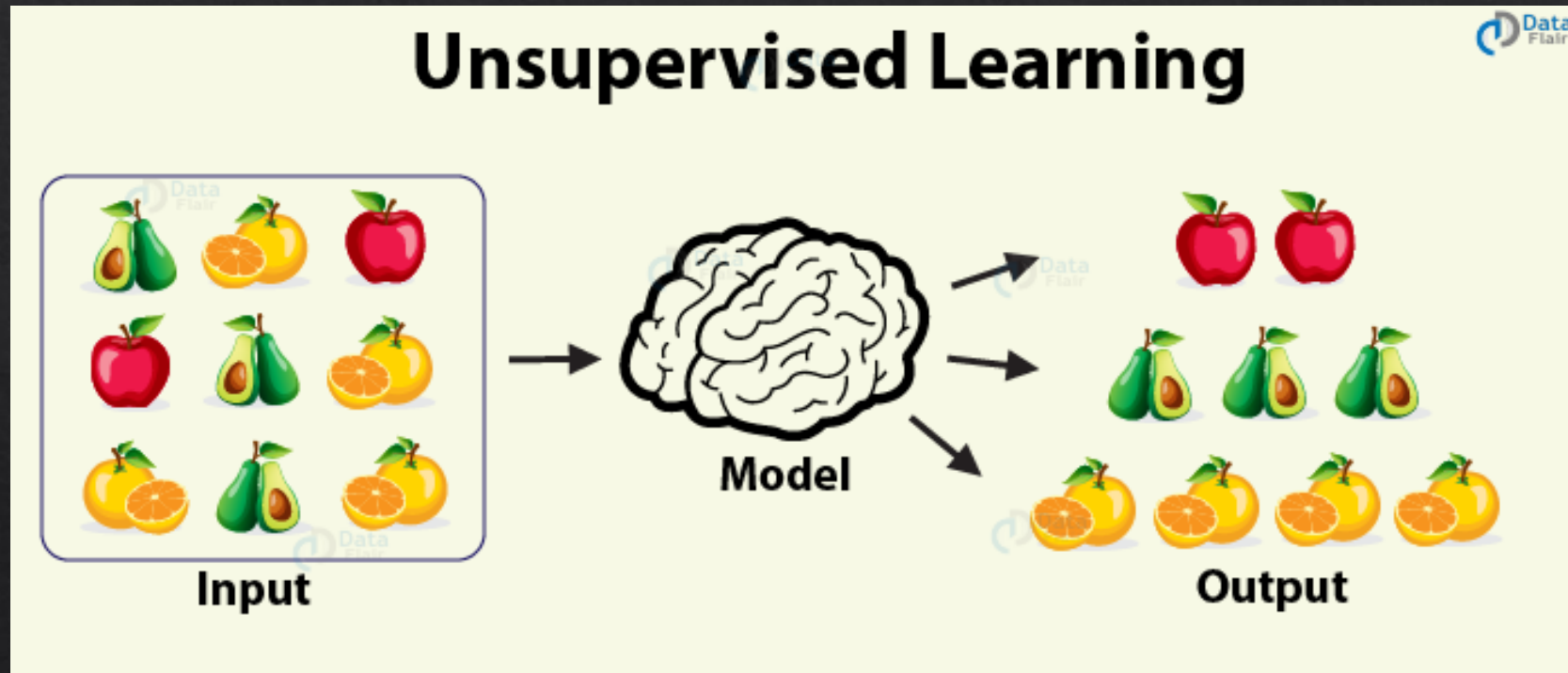
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Supervised Learning



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Unsupervised Learning



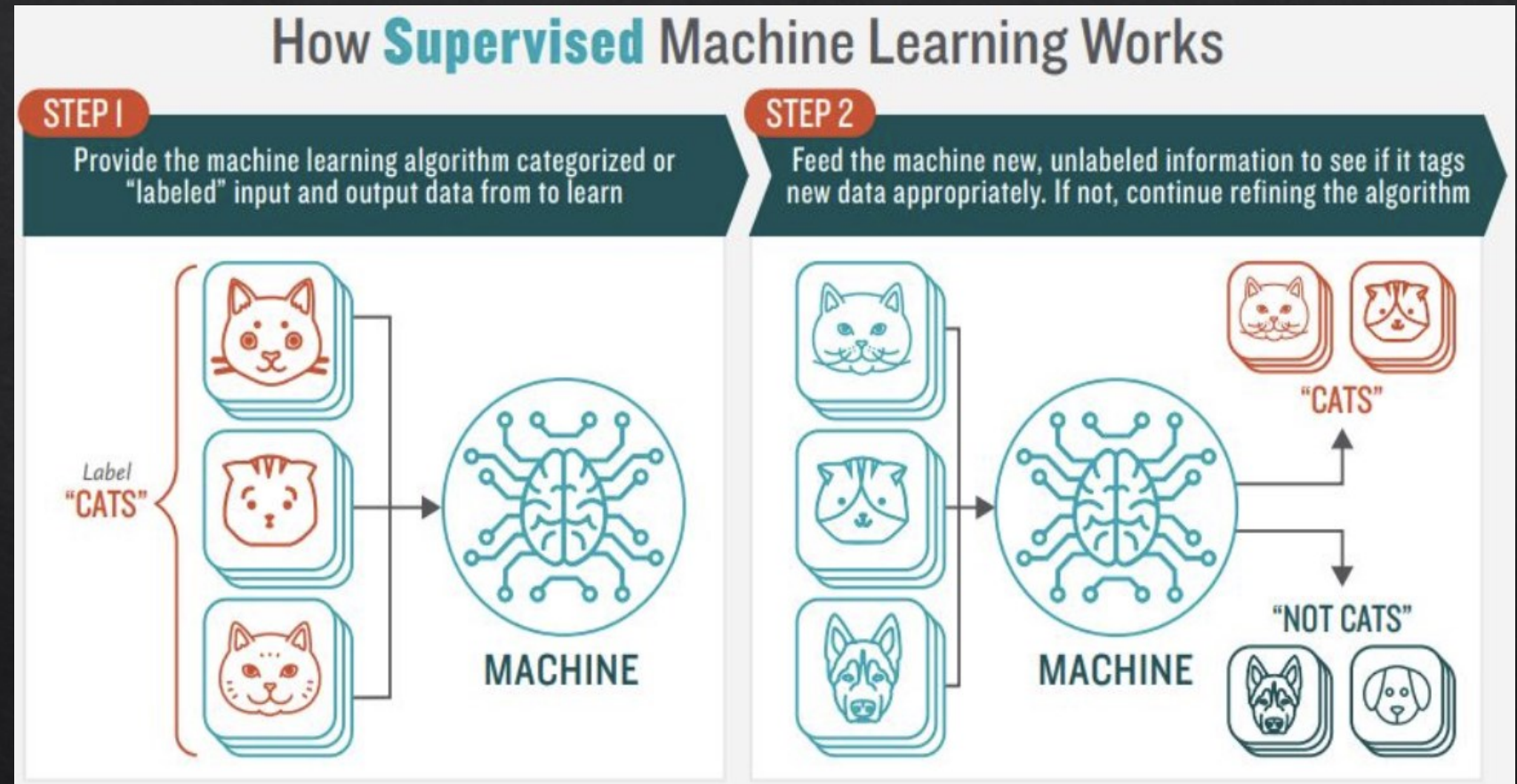
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Supervised Learning Framework

Training
Phase



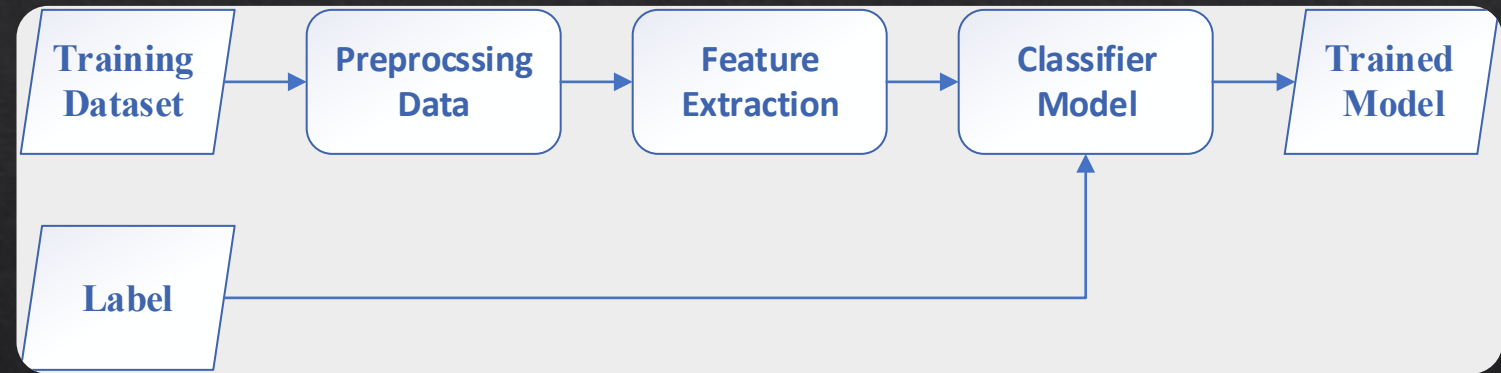
Testing
Phase



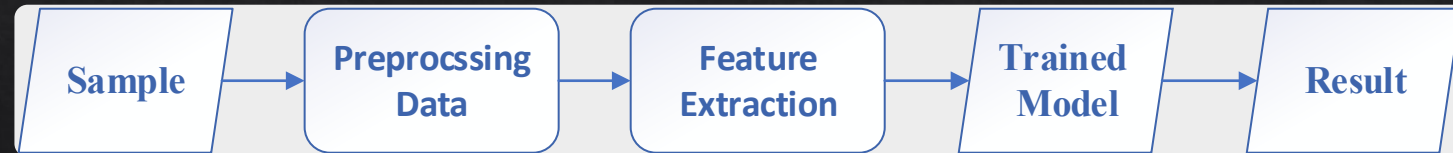
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Supervised Learning Framework

Training Phase



Testing Phase

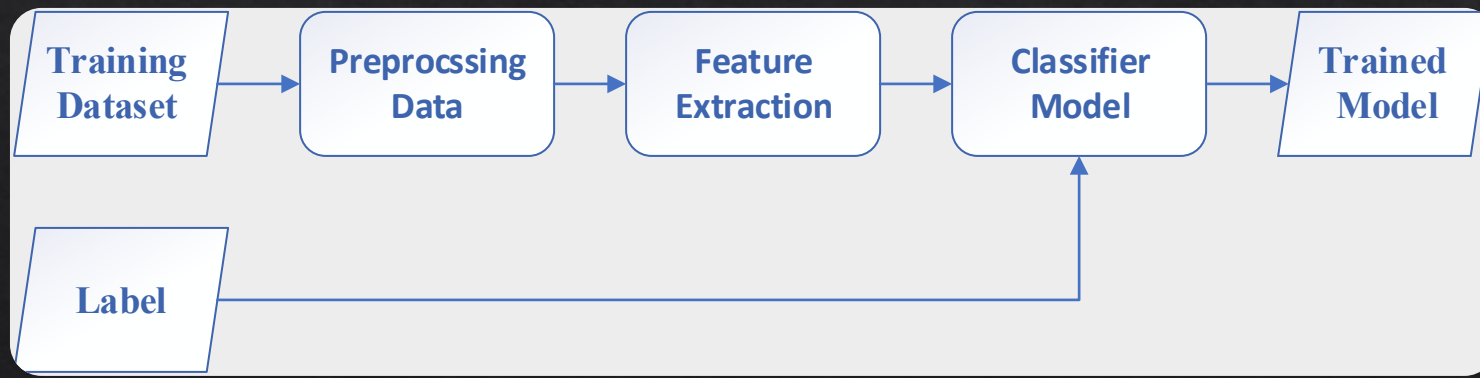
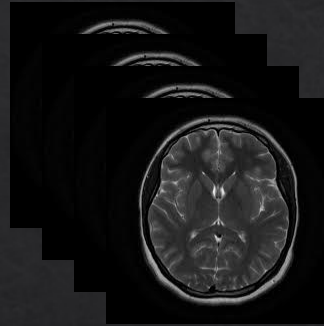


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Supervised Learning Framework

Training Dataset : MRI Brain Images

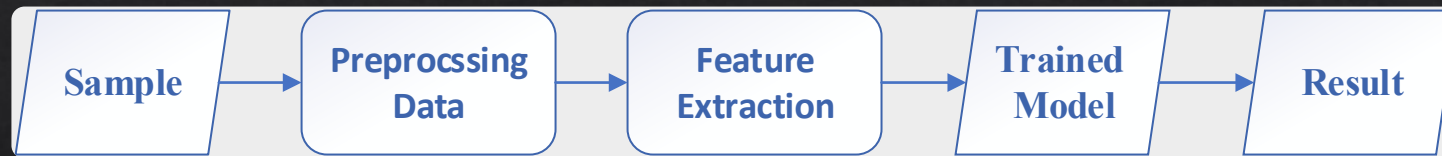
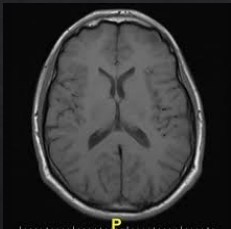
Labels = Benign and Malignant



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Supervised Learning Framework

Testing Dataset : New MRI Brain Images



Benign

Malignant

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Different Types of Classifiers

