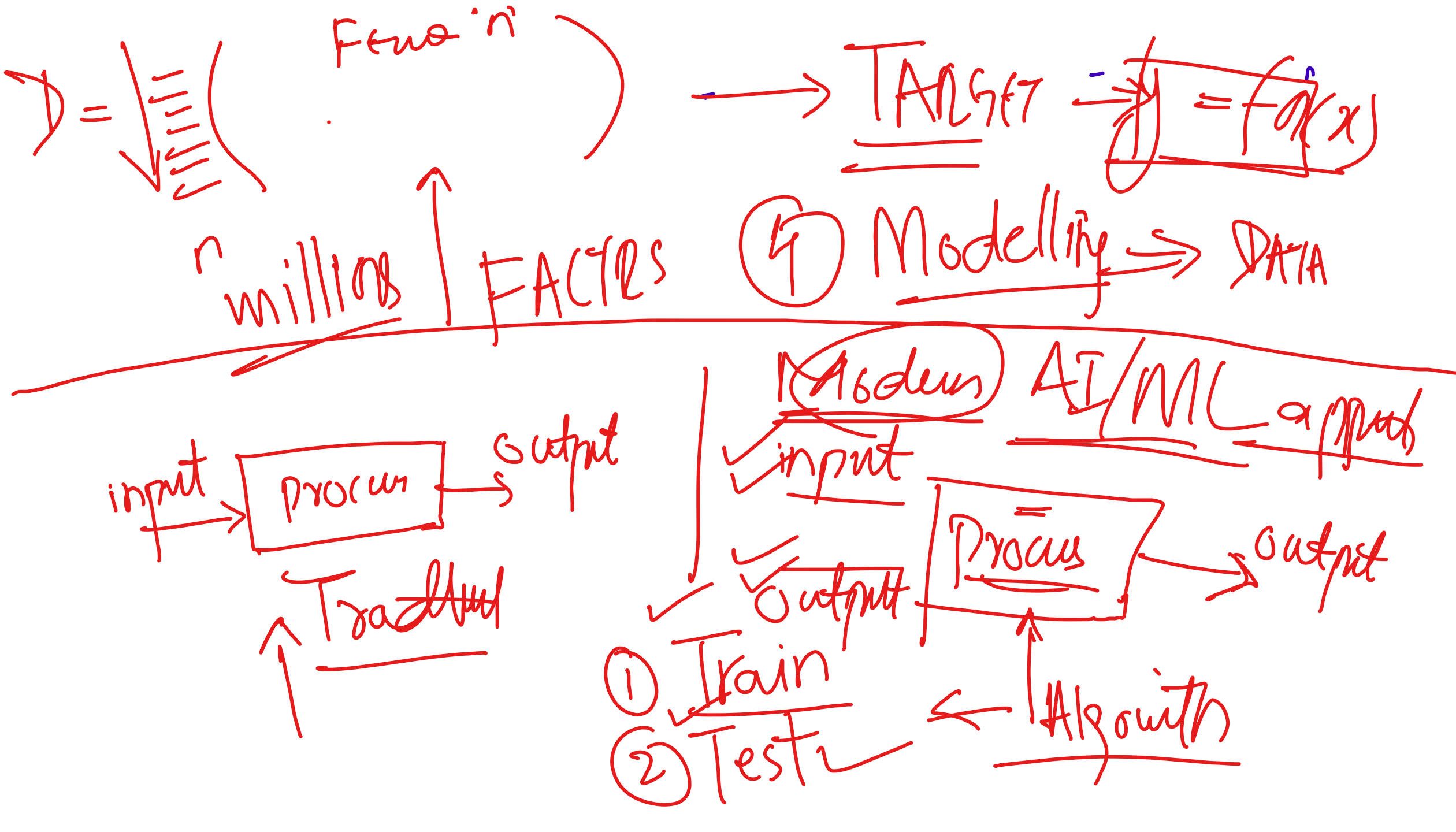
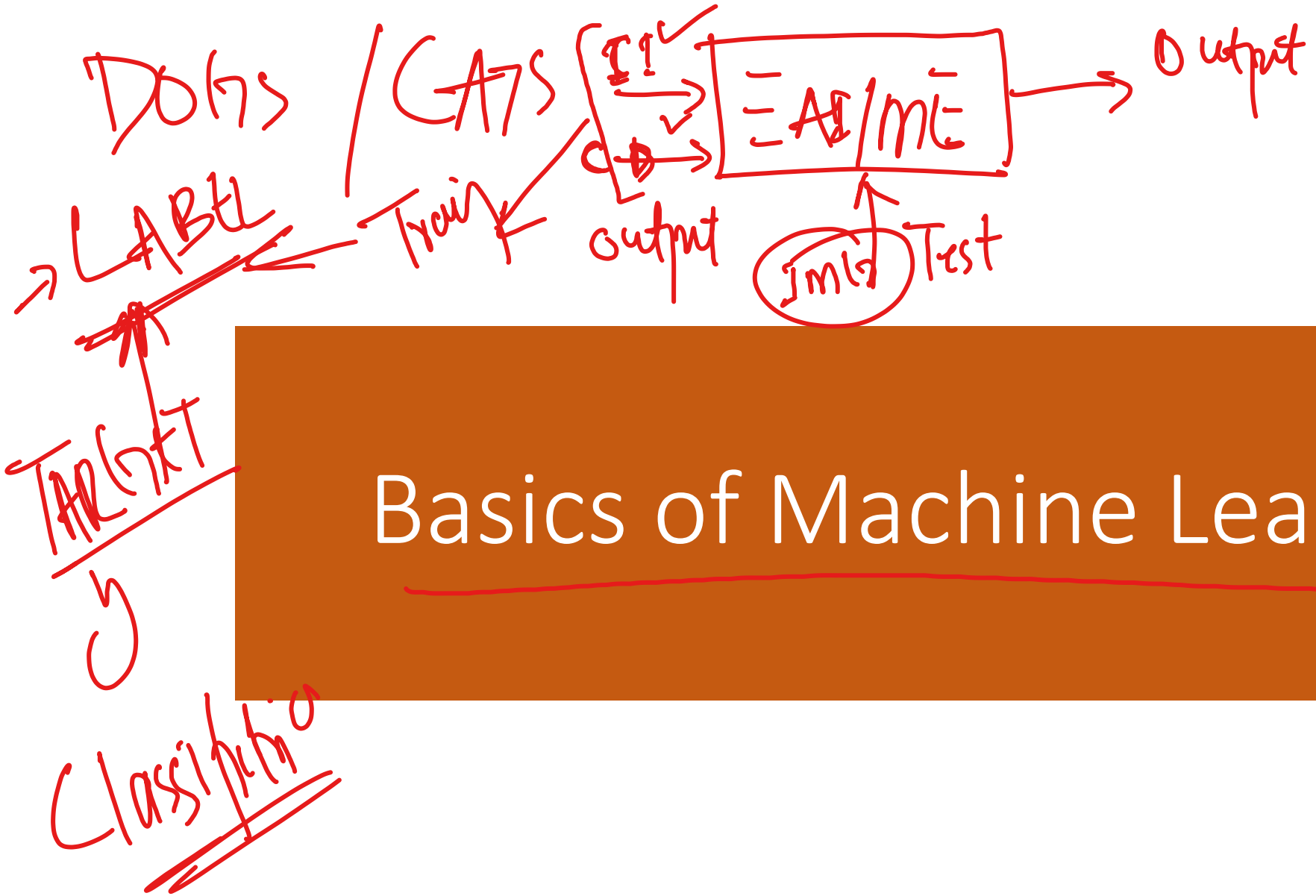

Features
TARGET
y = f(x)
millions
FACTORS
Modelling
DATA
input
Process
output
Traditional
Models
AI/ML approach
input
output
Process
output
1. Train
2. Test
Algorithm



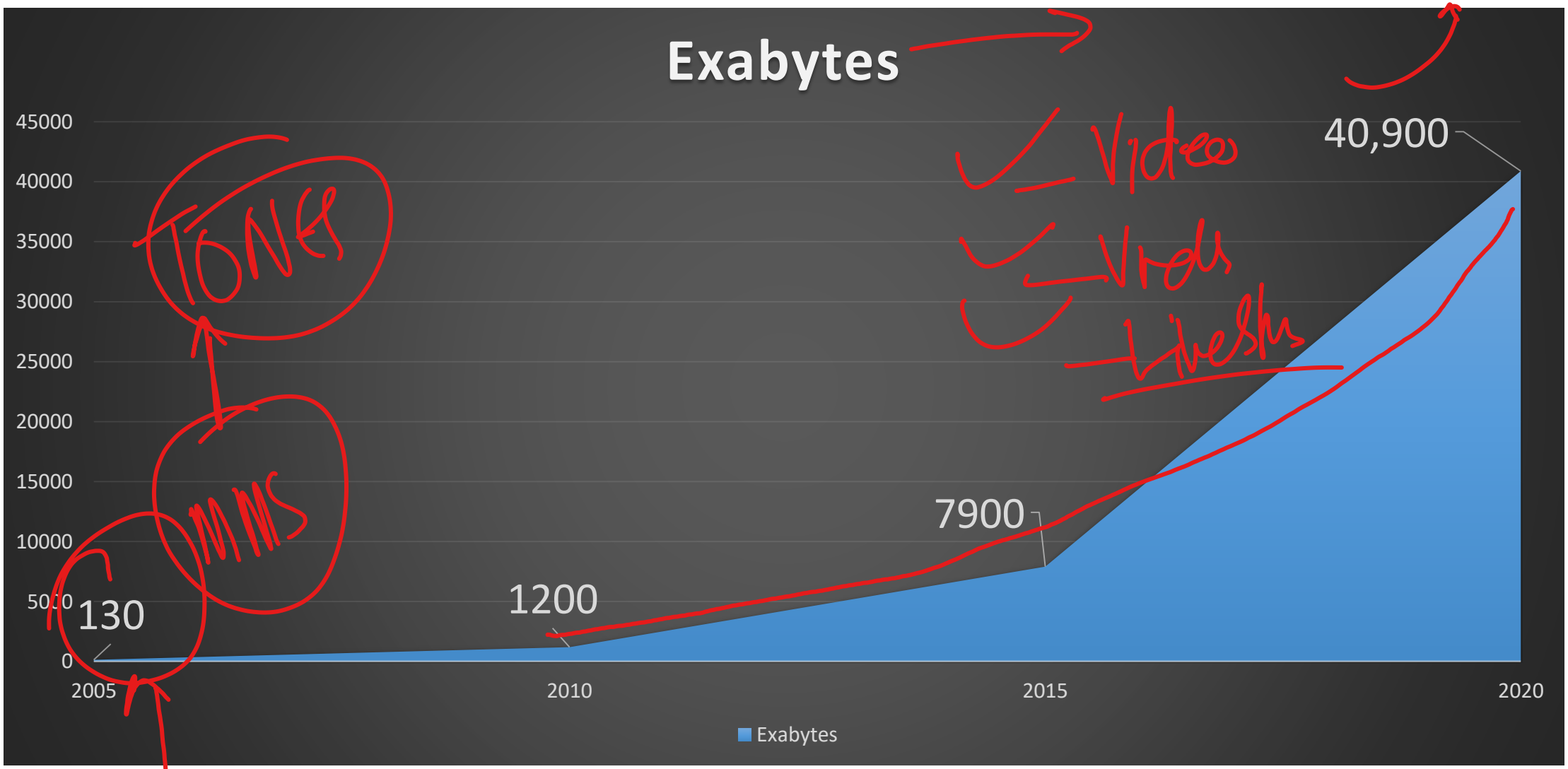
Basics of Machine Learning

Automation

Agentic AI

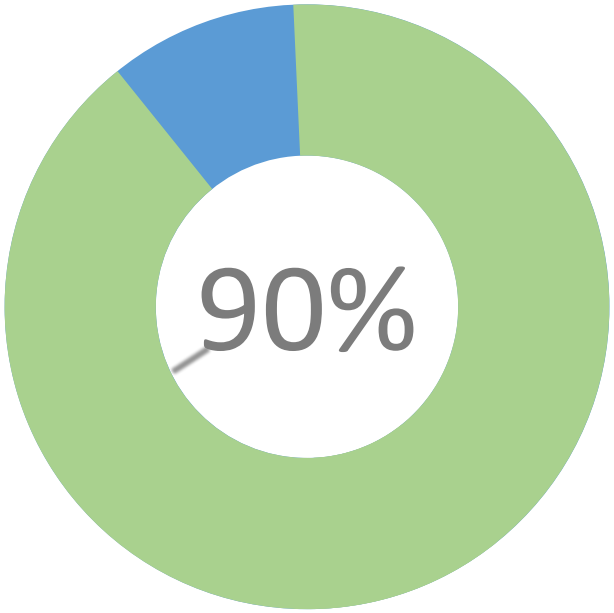
Why Machine Learning is the Future?

Data Growth



IDC Data Growth Forecast

Data Growth



90% of today’s data has been created in last two years alone

Benefits of Machine Learning

- Faster decisions
- Develop insights that are beyond human capabilities
- Act at the right time and take advantage of opportunities, converting them into closed deals.

Why Azure ML?

Why Azure ML?

- Drag and Drop interface and no Programming required
- Large variety of algorithm as modules
- From experiment to production API in minutes
- Supports R and Python to bring in your existing code
- Flexibility of data storage; supports variety of data storage options
- Large number of pre-built APIs available as a service

What is Machine Learning?

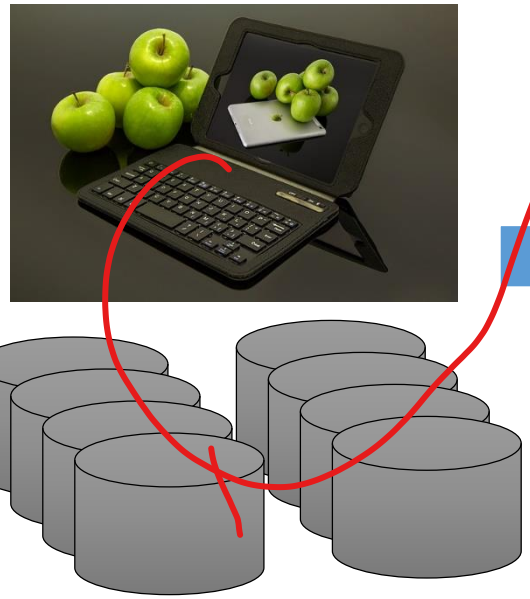
What Is Machine Learning?

- **Machine learning** is the subfield of computer science that gives computers the ability to learn without being explicitly programmed.
  – Arthur Samuel, 1959

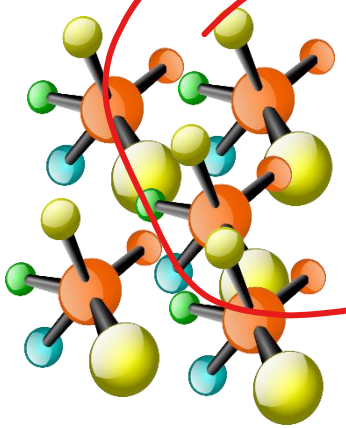
- Extraction of knowledge from data

- Learns from past behaviour and make predictions or decisions

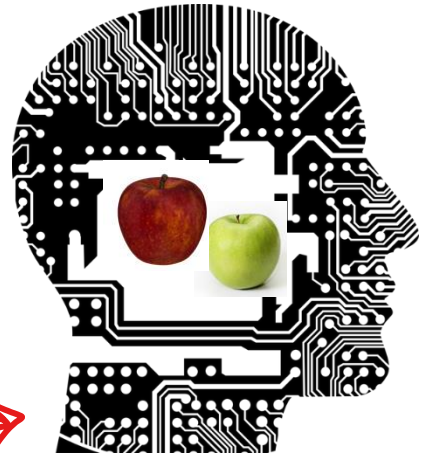
How Machines Learn?



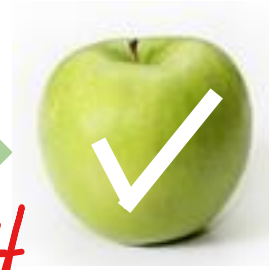
Historic Data



Learning Algorithms



Intelligent Model



Green Apple

Supervised, Unsupervised and Reinforcement Learning

Supervised Machine Learning

- Data is labelled
- There is an Input variable "X" or set of input variables and an output variable "Y"

$$Y = f(X)$$

- The function is approximated to predict new values of Y given X
- Examples
  - **Regression** – Output variable is a real value such as Amount, Height, Weight etc
  - **Classification** – Output variable is a category, such as Yes, No, Red, Blue, Yellow etc

Loan_ID	Gender	Married	Dependents	Self_Employed	Income	LoanAmt	Term	CreditHistory	Property_Area	Status
LP001002	Male	No	0	No	$5,849.00		60	1	Urban	Y
LP001003	Male	Yes	1	No	$4,583.00	$128.00	120	1	Rural	N
LP001005	Male	Yes	0	Yes	$3,000.00	$66.00	60	1	Urban	Y
LP001006	Male	Yes	2	No	$2,583.00	$120.00	60	1	Urban	Y

Unsupervised Machine Learning

- Only X or input variable is known
- The goal for unsupervised learning is to model the underlying structure or distribution in the data in order to learn more about the data.
- There is no correct answers and there is no teacher.
- Algorithms are left on their own to discover and present the interesting structure in the data.
- Examples
  - Clustering – Customer behaviour grouping
  - Association – Recommendation model