

nebo?

Machine Learning C2 slot

Traditional Prog vs. ML

Paradigm Shift??  
→ more than a century

→ manual  
→ Program  
→ algo.

I/p + Prog  $\xrightarrow{\text{machine}}$  O/p

Not for Data Mining / NLP /  
recomm. etc.

ML → Recent; Popular; wide use

or Augmented Analytics

I/p + O/p  $\xrightarrow{\text{Machine}}$  Prog/Algo  
that suits  
the ip & op.

(mapping?)

Use

→ Powerful insights

Use

→ Powerful insights  
future outcomes

$x_1 \quad x_2 \quad x_3 \quad \dots \quad Y$   
`X'  $\rightarrow$  I/P      `Y'  $\rightarrow$  O/P

Generate Mapping func. for

given  $X$  &  $Y$ .

(or) Prog.

"Predict future outcomes."

→ "Learn on its own" — Machine

Fits all  
data points

More Data  $\rightarrow$  more Accurate Model

features are inputs

e.g.: Gold Rate  $\leftarrow$  O/P

I/P: demand | supply | inflation |

Govt. Reserves | Import duty |

Interest Rate.

All rows of data: mapping func  $\rightarrow$  predict

all rows of data: mapping func  $\rightarrow$  predict  
could not in future



$\rightarrow$  Used in all areas where we want continuous improvement  
 $\rightarrow$  For eg: I want my model to be more accurate.

ML used:

$\rightarrow$  Classification eg: Malign / Benign Cancer

$\rightarrow$  Spam Detection

$\rightarrow$  Recommendation Systems

$\rightarrow$  Credit Card Fraud Detection

$\rightarrow$  Sentiment Analysis

$\rightarrow$  Stock Trading

$\rightarrow$  Customer Segmentation : Behavioral Patterns during Trial Version  
: Will user pay for it/not  
: Company Resources was accordingly.

$\rightarrow$  Product Recommendation

$\rightarrow$  Image & Video Recognition

$\rightarrow$  Demand Forecasting

$\rightarrow$  Virtual Personal Assistant

for eg: Alexa, Siri, etc.

$\rightarrow$  Customer Service Automation / Chatbots etc.

/ Voice Assistance

1. response to voice commands

/ Voice Assistance

## Types of ML Paradigms:

1 → Supervised

2 → Unsupervised

3 → Reinforcement

4 → Semi Supervised

1 → labelled Data → exact pattern machine has to search for

— learn under some guidance via labels

— entity that provides feedback

Accuracy & Training Data