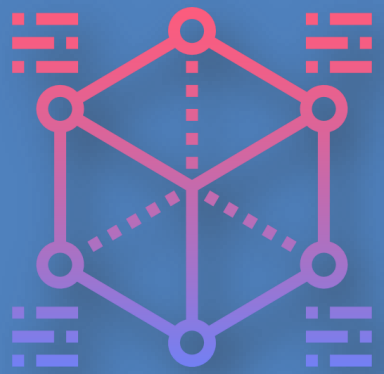


Salary prediction based on experience using ML

Sampriti Chatterjee (Great Learning)

Agenda

1. Why do we need Machine Learning?
2. What is Machine Learning?
3. Life cycle to build a model with ML
4. What is machine Learning?
5. Supervised Learning: Linear Regression
6. Salary prediction based on experience using ML

Why do we need Machine Learning?

- In the past, we used to have data in a structured format but now as the volume of the data is increasing, so the number of structured data becomes very less, so to handle the massive amount of data we need data science techniques
- Those data can be used to get the proper business insights and the hidden trends from them.
- These insights helps the organization to predict the Future
- Helps to reduce the production cost
- Build model based on the data to give the ability to the machine to predicts on its own

What is Machine Learning?

Machine learning is a sub-set of artificial intelligence (AI) that allows the system to automatically learn and improve from experience without being explicitly programmed

	Time	V1	V2	V3	V4	V5
0	0.0	-1.359807	-0.072781	2.536347	1.378155	-0.338321
1	0.0	1.191857	0.266151	0.166480	0.448154	0.060018
2	1.0	-1.358354	-1.340163	1.773209	0.379780	-0.503198
3	1.0	-0.966272	-0.185226	1.792993	-0.863291	-0.010309
4	2.0	-1.158233	0.877737	1.548718	0.403034	-0.407193

Training Data

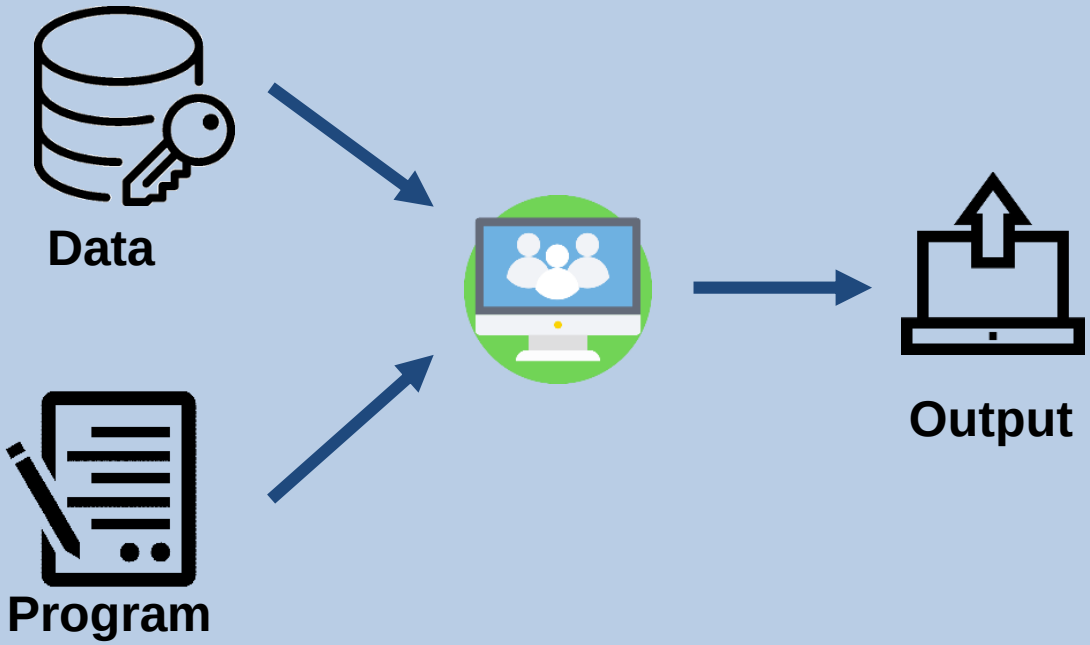
Model Building

	Time	V1	V2	V3	V4
284802	172786.0	-11.881118	10.071785	-9.834783	-2.066656
284803	172787.0	-0.732789	-0.055080	2.035030	-0.738589
284804	172788.0	1.919565	-0.301254	-3.249640	-0.557828
284805	172788.0	-0.240440	0.530483	0.702510	0.689799
284806	172792.0	-0.533413	-0.189733	0.703337	-0.506271

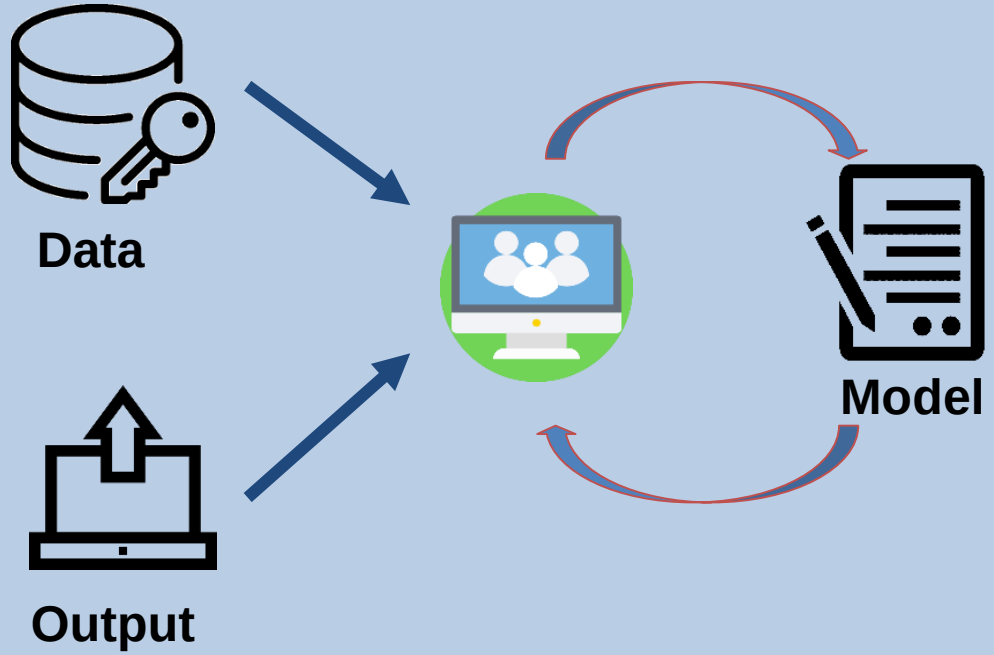
Testing Data

Traditional Vs Machine Learning

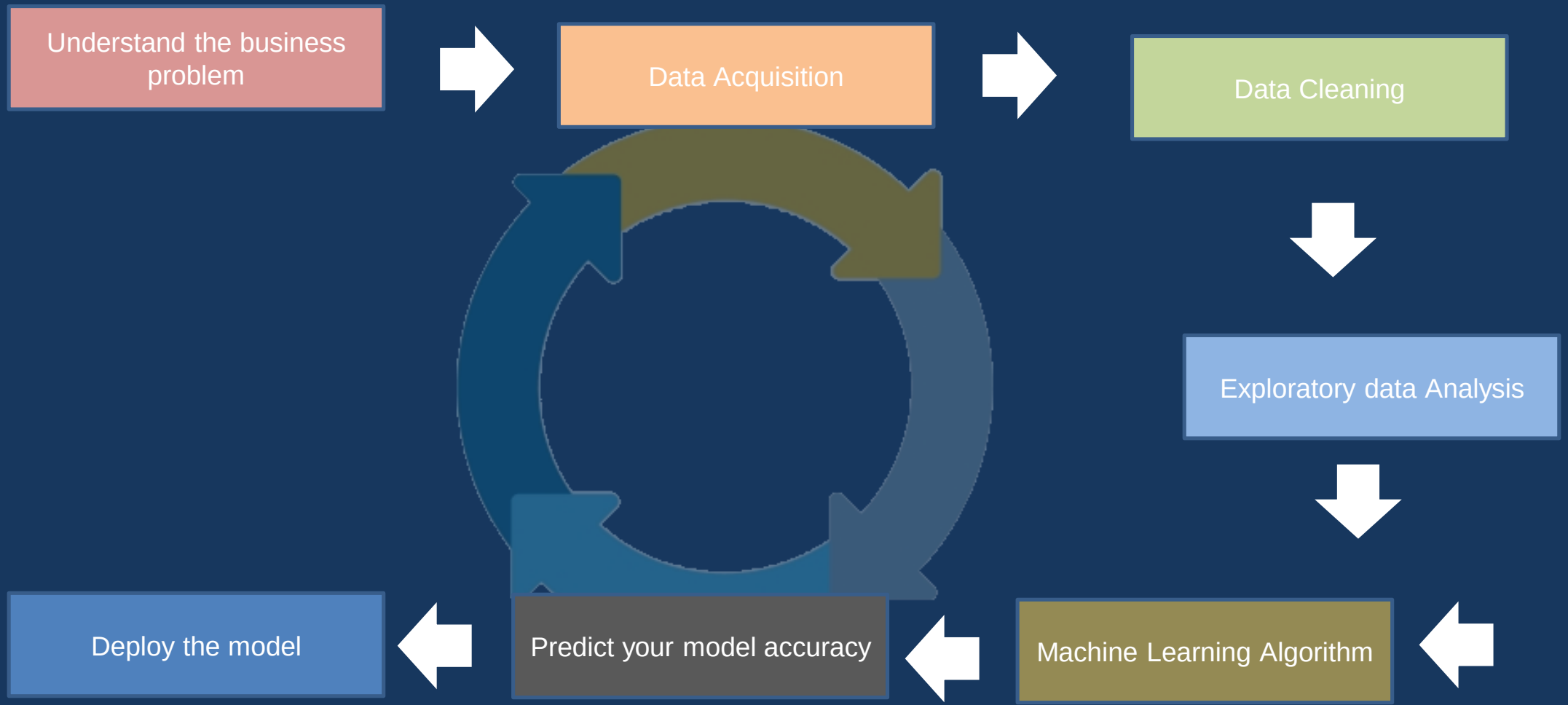
Traditional Programming



Machine Learning



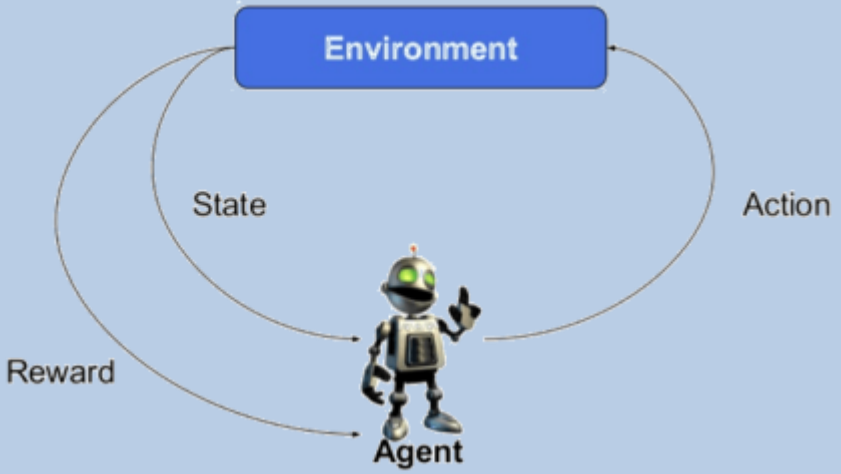
Life cycle To build a model with Machine Learning



Machine Learning to build the Model

Types Of Machine Learning

- Supervised Learning
- Unsupervised Learning
- Reinforcement Learning



What is Supervised Learning?

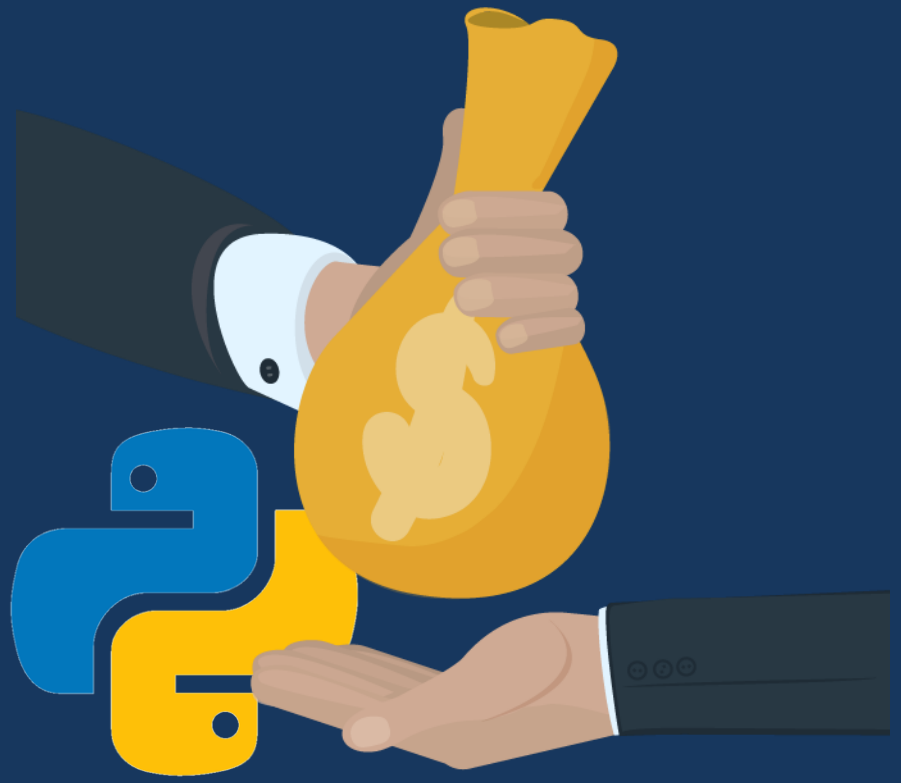
Supervised learning works as a supervisor or teacher. Basically, In supervised learning, we teach or train the machine with labeled data (that means data is already tagged with some predefined class). Then we test our model with some unknown new set of data and predict the level for them

- Learning from the labelled data and applying the knowledge to predict the label of the new data(test data), is known as ***Supervised Learning***
- ***Types of Supervised Learning:***
  - **Linear Regression**
  - **Logistic regression**
  - **Decision Tree**
  - **Random Forest**
  - **Naïve Bayes Classifier**

What is Linear Regression?

Regression stands for to model a target value based on independent variables and Linear Regression is used to find the relationship between dependent(y) and independent variable(x)

- Linear regression is a supervised machine learning algorithm
- Always works with continuous value
- Formula: y = mx+c m=slope of line and c= intercept
- Main target for linear regression to find the best value for X and Y



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Thank You