Introduction in Machine Learning

Chapter 01

summary

1.Machine learning.

By Definition is a field of AI that provides ability to the computer to learn without being explicitly programmed

- ✓ **Why ML?**

  Compare to others ML is very usefully due to; once it programmed, and when it counts a problem it should not programmed again. It is self-learn means it learn from the past experience.

2.Types of ML.

i. **i)Supervised** --> it has inputs as features and output as label
ii. **ii)Unsupervised** --> it has only features (inputs data)
iii. **iii)Reinforcement** --> it learns from outcomes and decide what to do next

3.Problems in ML.

i. is this 1 or 0? - Classification algorithms
ii. is this weird? - Anomaly Detection algorithm
iii. How much or How many? - Regression algorithm
iv. How is this organized? - Clustering algorithm
v. What should I do next? - Reinforcement learning

4.Why Python?

i. Python is open-source and free software, easy to learn, high level language, portable and extensible
ii. Contain a lot of packages and most are used for data science
iii. It is interpreter and most of programmer worldwide use python

5. Python Libraries

i. **Scikit-learn** is simple and efficient or data mining and analysis, built on numpy and matplotlib, also open source
ii. **Pandas** -Tool for data wrangling(clean), design for quick and easy data manipulation, visualization
iii. **Numpy** - Tool that provide an abundance of useful features for operations on n-arrays and metrics in python
iv. **seaborn** - It focused on the visual of statistical models which includes heat map and depict the overall distributions
v. **Matplotlib** - It enable visualization, bar charts, scatter plots, line chart, histogram, pie charts contour plots etc.