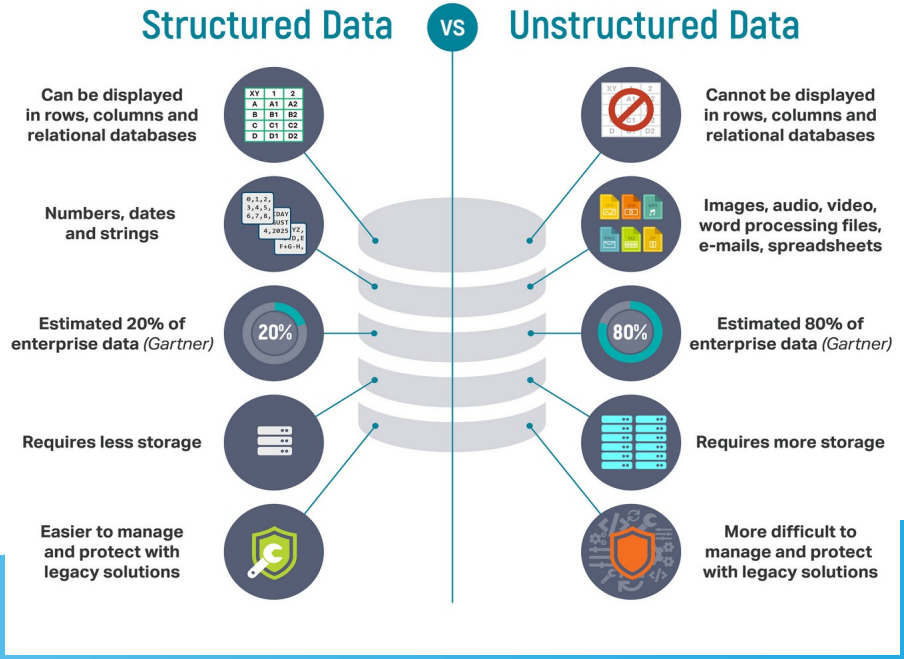
DATA SCIENCE AND MACHINE LEARNING

What is Data Science

- Data science is an interdisciplinary field that uses scientific methods, processes, algorithms and systems to extract or extrapolate knowledge and insights from noisy, structured and unstructured data,and apply knowledge from data across a broad range of application domains. Data science is related to data mining, machine learning and big data.

Type of Data

- Various types of data

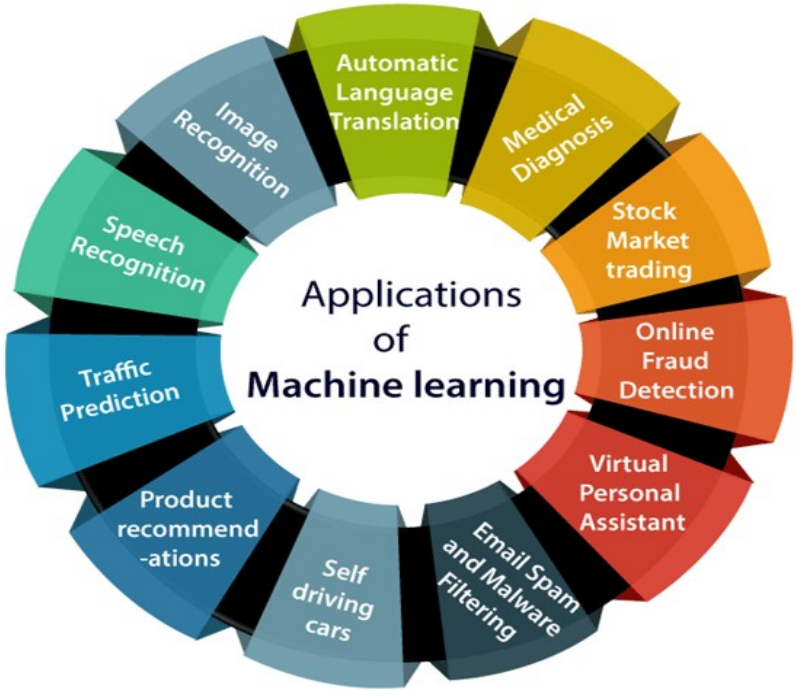


What is Machine Learning.

- Machine learning (ML) is a field of inquiry devoted to understanding and building methods that 'learn', that is, methods that leverage data to improve performance on some set of tasks.It is seen as a part of artificial intelligence. Machine learning algorithms build a model based on sample data, known as training data, in order to make predictions or decisions without being explicitly programmed to do so.Machine learning algorithms are used in a wide variety of applications, such as in medicine, email filtering, speech recognition, and computer vision, where it is difficult or unfeasible to develop conventional algorithms to perform the needed tasks.

Application of Machine Learning

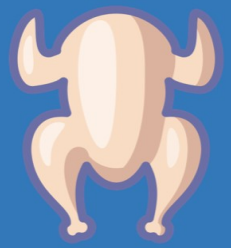
- Ten application of machine learning



Traditional Programming Vs Machine Learning

- Traditional Programming: Traditional programming is a manual process—meaning a person (programmer) creates the program. But without anyone programming the logic, one has to manually formulate or code rules. In machine learning, on the other hand, the algorithm automatically formulates the rules from the data.
- Machine Learning: The computer makes dicision on it own without been explicitly programmed to do so.

Traditional programming



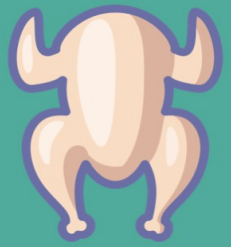
1. Cut vegetables
2. Season chicken
3. Preheat oven
4. Cook chicken for 30-minutes
5. Add vegetables

Starts with

Makes

Machine learning algorithm

Inputs



Output

1. Cut vegetables
2. Season chicken
3. Preheat oven
4. Cook chicken for 30-minutes
5. Add vegetables

Starts with

Figures out

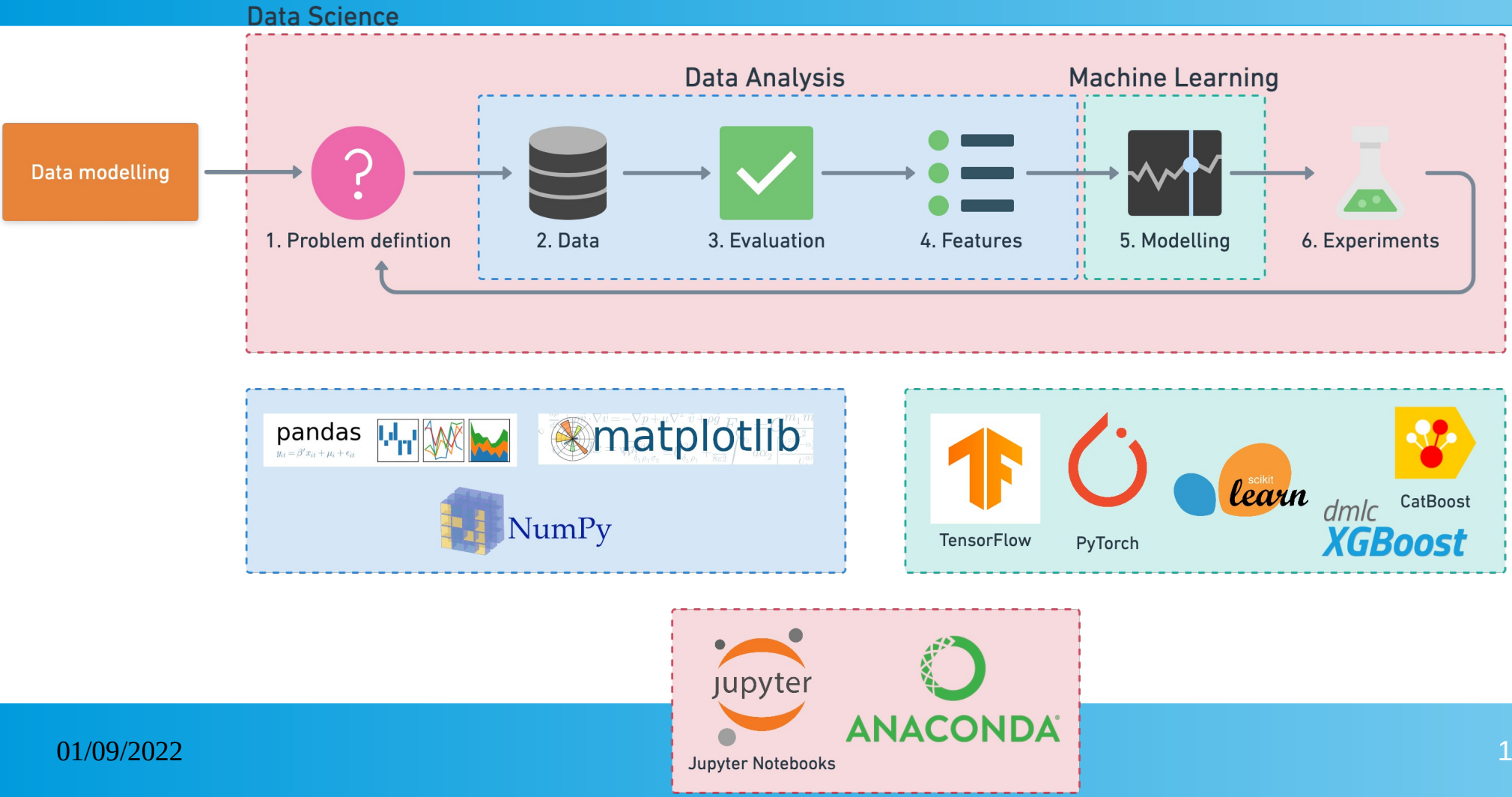
What we are going to cover

- Steps

What are we going cover?

- What is Data Science and Machine Learning.
- Application of Data Science and Machine Learning
- Data Science and Machine Leaning Tools
- Introduction to Data Science and Machine Learning Tools
- Project 1 (Titanic Dataset prediction) on strutured Data
- Project 2 (Image Recognation) Unstrutured Data.

Tools you can use



Let’s code!!