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**Kampus
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DATA SCIENCE DARMAJAYA
“YOUR BEST FUTURE IN DATA”

MEETING: [1]

INTRODUCTION TO DATA SCIENCE

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Introduction to Data Science

1. Data Science and Importance (Definition and Example)
2. Data Science Process (What Exactly data science and data scientist do?)
3. AI and Data Science (Relation Between AI and Data Science)
4. Prerequisites for DS (To Become Data Scientist one Should Know the Various Technique)



What is Data Science?

Data Science is an interdisciplinary field that uses algorithms, procedures, and processes to examine large amount of data in order to uncover hidden patterns, generated insights, and direct decision making.



01 Importance of Data Science

1. **Career Opportunities**
2. **Data Science help brands to understand their customer in a much enhanced and empowered manner.**
3. **It Allows brands to communicate their story in such a engaging and powerful manner.**
4. **Big Data is a new field that is constantly growing and evolving.**
5. **Its finding and results can be applied to almost any sector like travel, healthcare and education among others.**
6. **Data science is accessible to almost all sectors.**



Application of Data Science?

1. Internet Search
2. Digital Advertisements
3. Recommender System
4. Image Processing
5. Speech Recognition
6. Price Comparison Websites
7. Airline Routing Planning
8. Fraud and Risk Detection
9. Delivery Logistik



Application of Data Science?

1. Internet of Things
2. Health Care
3. Artificial Intelligence
4. Augmented Reality
5. Graph Analytics
6. Agile Data Science
7. Hyper Personalisation
8. Machine Learning
9. Behavioural Analytics
10. Journey Science, and etc.



Example:

Agricultural Company Cargill developed a mobile data-tracking app that helps shrimp farmers reduce mortality rates.

Freight company Pitt Ohio used historical data and predictive analytics to estimate delivery time with 99% accuracy.

Oil Giant Shell, used data science to anticipate machine failure at facilities across the world.

Many more.....



Facts on Data Generation

1. Every day 2.5 quintillion bytes of data has been created.
2. With so much information at our fingertips, we're adding to the data stockpile every time we turn to our search engines for answer.
3. Statistics show that more than 500 terabytes of new data are entered into the databases of the social networking site facebook every day. How about IG, Tiktok, X, Youtube, and etc.



02 How Does Data Science Work?

1. **COLLECT DATA**, Raw data is gathered from various sources that explain the business problems.
2. **ANALYZE DATA**, Using various statistical analysis, and machine learning approaches, data modelling is performed to get the optimum solutions that best explain the business problem.
3. **INSIGHT**, Actionable insight that will serve as a solution for the business problems gathered through data science.

Example:



Collect Data

Gather the previous data on the sales that were closed.



Analyze Data

Use statistical analysis to find out the patterns that were followed by the leads that were closed.



Insights

Use machine learning to get actionable insights for finding out potential leads.

Example:

Suppose there is an organization that is working toward finding out potential leads for their sales team. They can follow the following approach to get an optimal solution using data science.





In above example we saw machine learning is required form insight.

Lets check relationship between AI vs DS



03 AI AND DATA SCIENCE

“Data science and AI are not the same”

DS and AI are two technologies that are transforming the world. while AI powers data science operations, data science is not completely dependent on AI.

Data Science is leading the 4th IR.

data science also requires machine learning algorithm, which result in dependency on AI.



AI vs DS

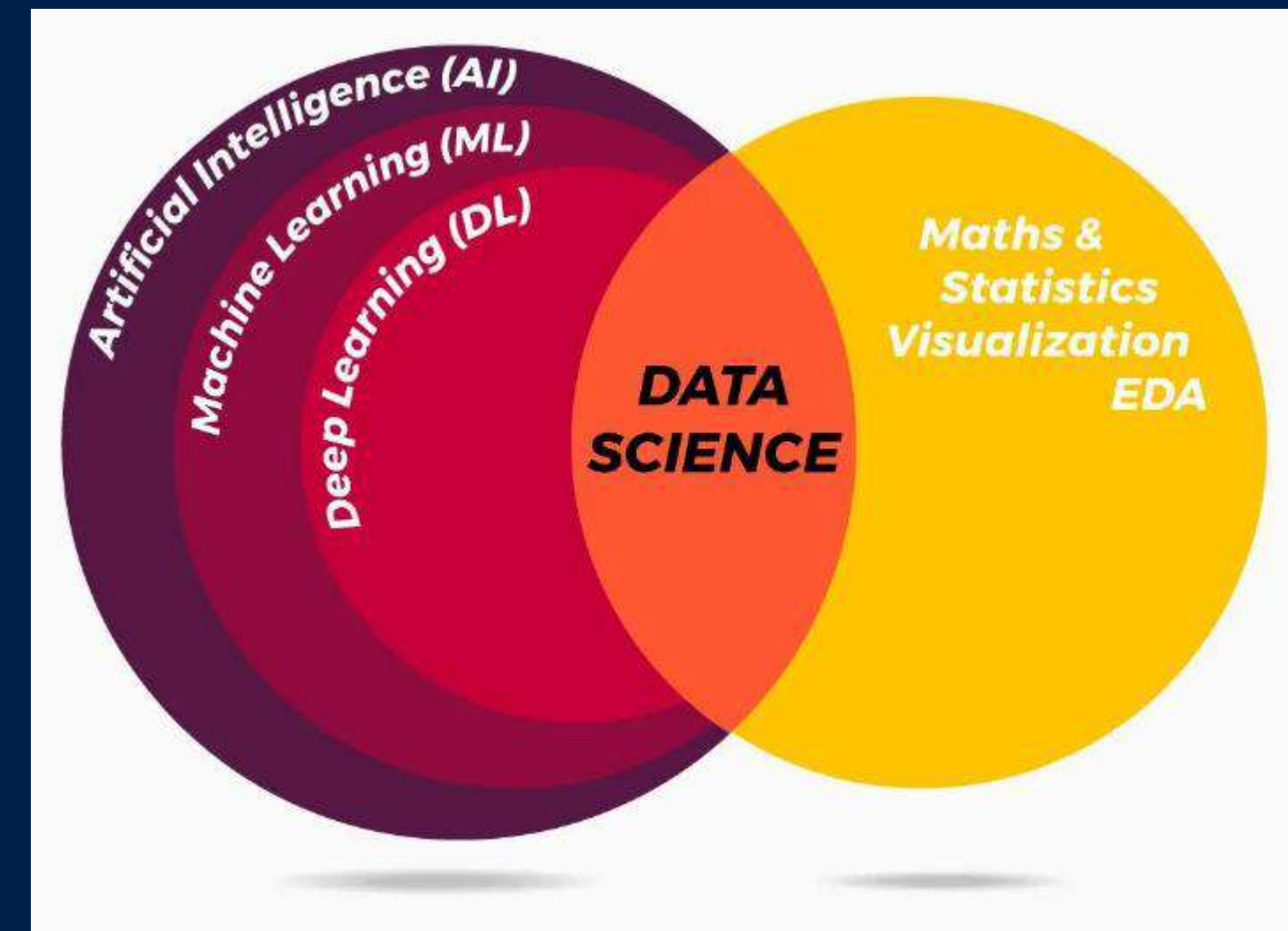
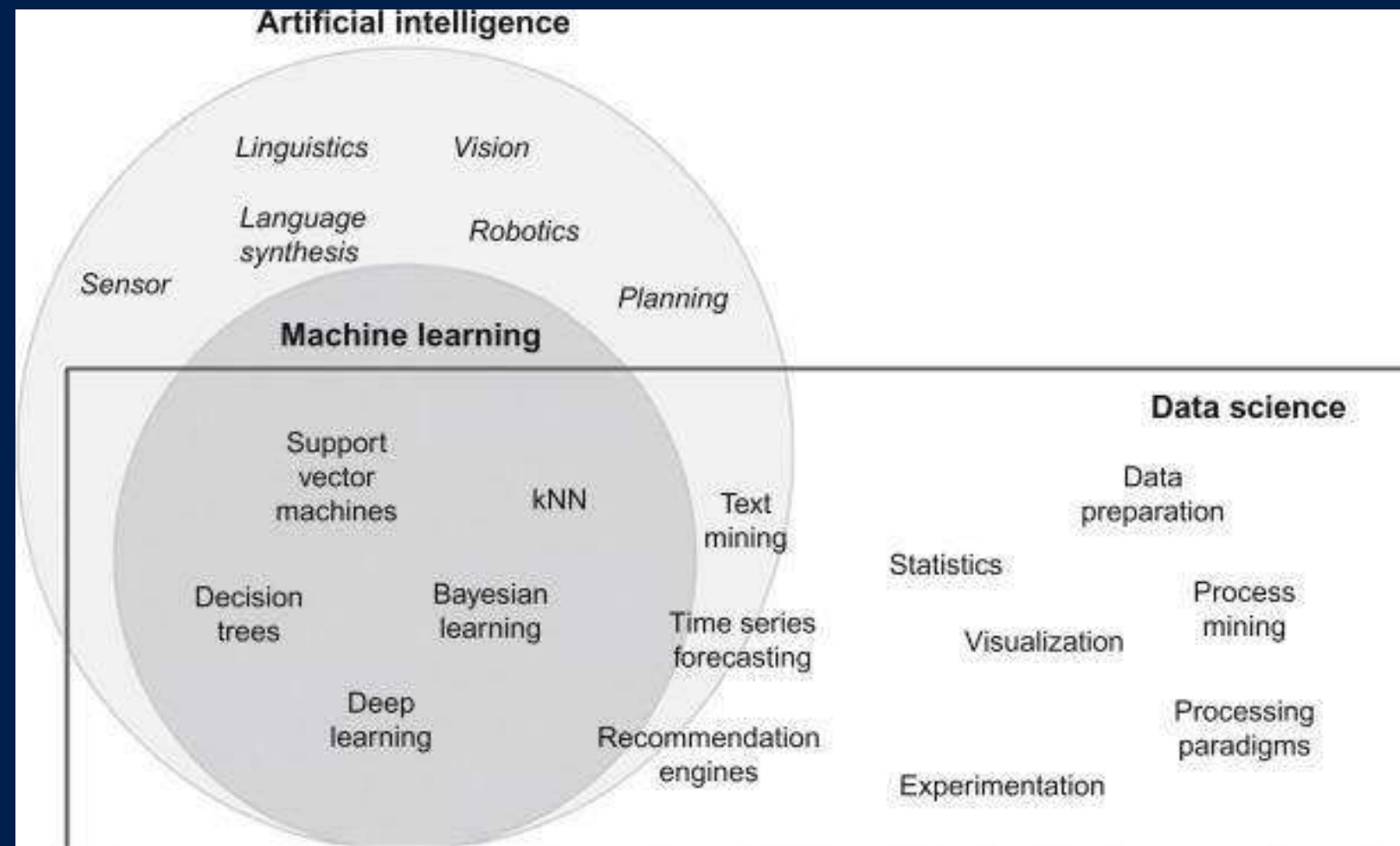
1. Data science jobs require the knowledge of ML languages like R and python to perform various data operations and computer science expertise.
2. Data science uses more tools apart from AI. This because data science involves multiples step to analyze data and generate insights.
3. Data science models are built for statistical insights whereas AI is used to build models that mimic cognition and human understanding.



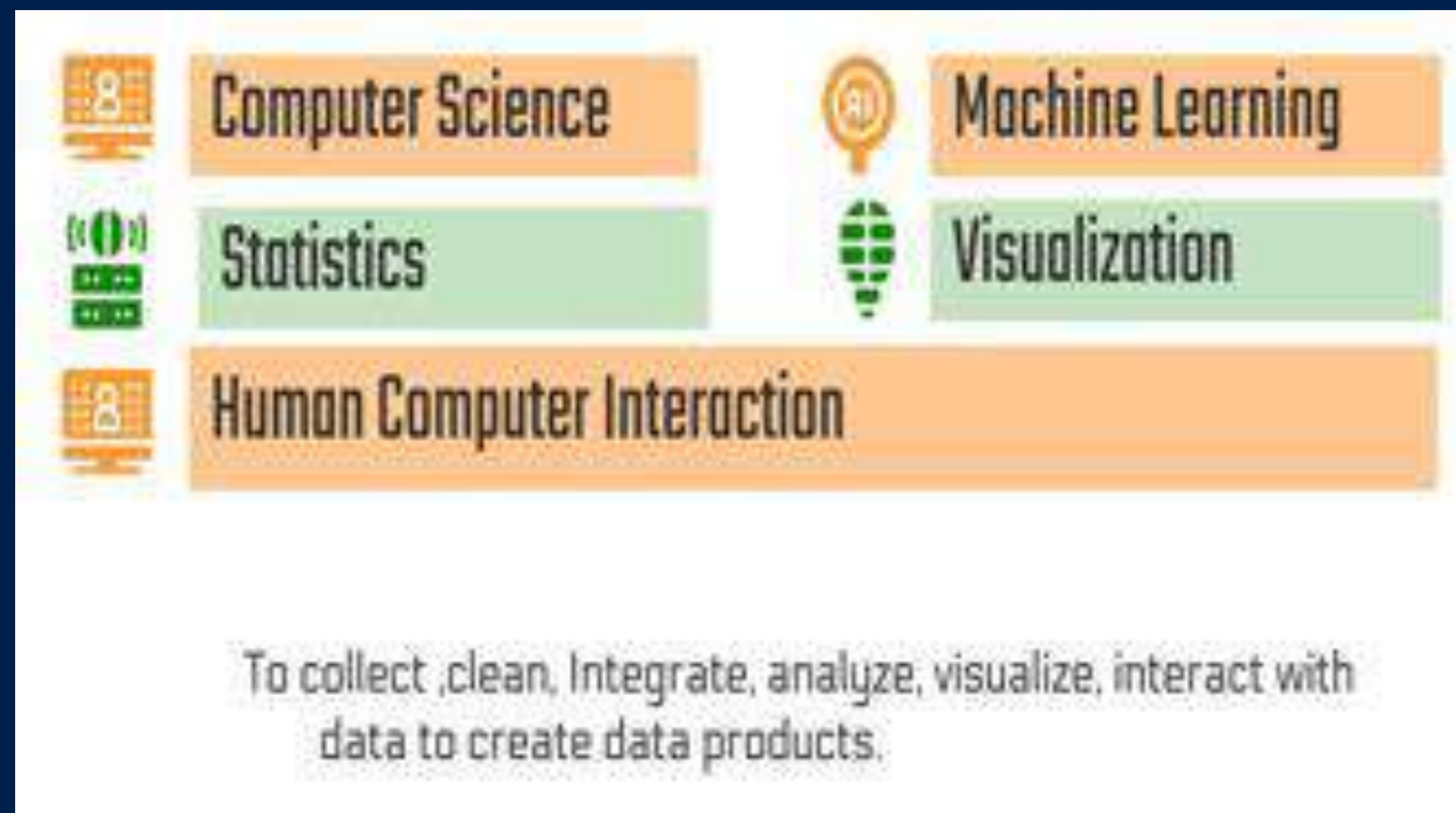
AI vs DS

Today industries require both, DS and AI. DS will help them make necessary data driven decision and asses their performance in the market, while AI will help industries work with smarter device and software that will minimize workload and optimize all the process for improves innovation.

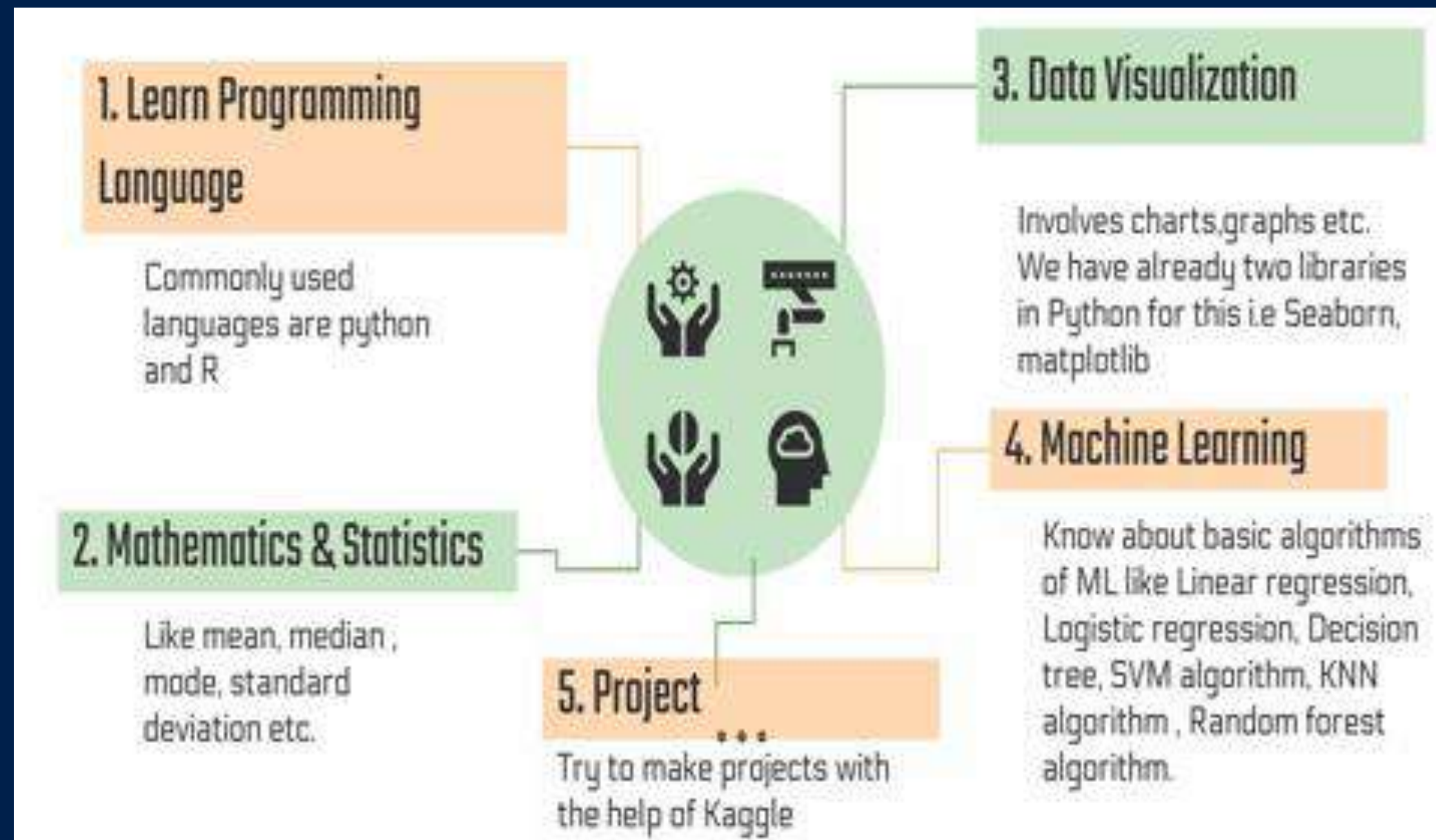
AI vs DS



04 PREREQUISITES FOR DATA SCIENCE



ROADMAP OF DATA SCIENCE





**Start making small data science projects with the help of
Kaggle**



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THANK YOU!!

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