AI & ĐỒNG BỌN

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Summary:

1. AI
2. Machine Learning
3. Data Science (DS)
4. DS Project – NLP: Twitter Sentiment Analysis

1. What is AI (Artificial Intelligence)?

- A tool capable of making decisions.

- Intelligences demonstrated by machines.

- A **type of computer technology** which is concerned with making machines **work in an intelligent way**, similar to the way that the **human mind** works.

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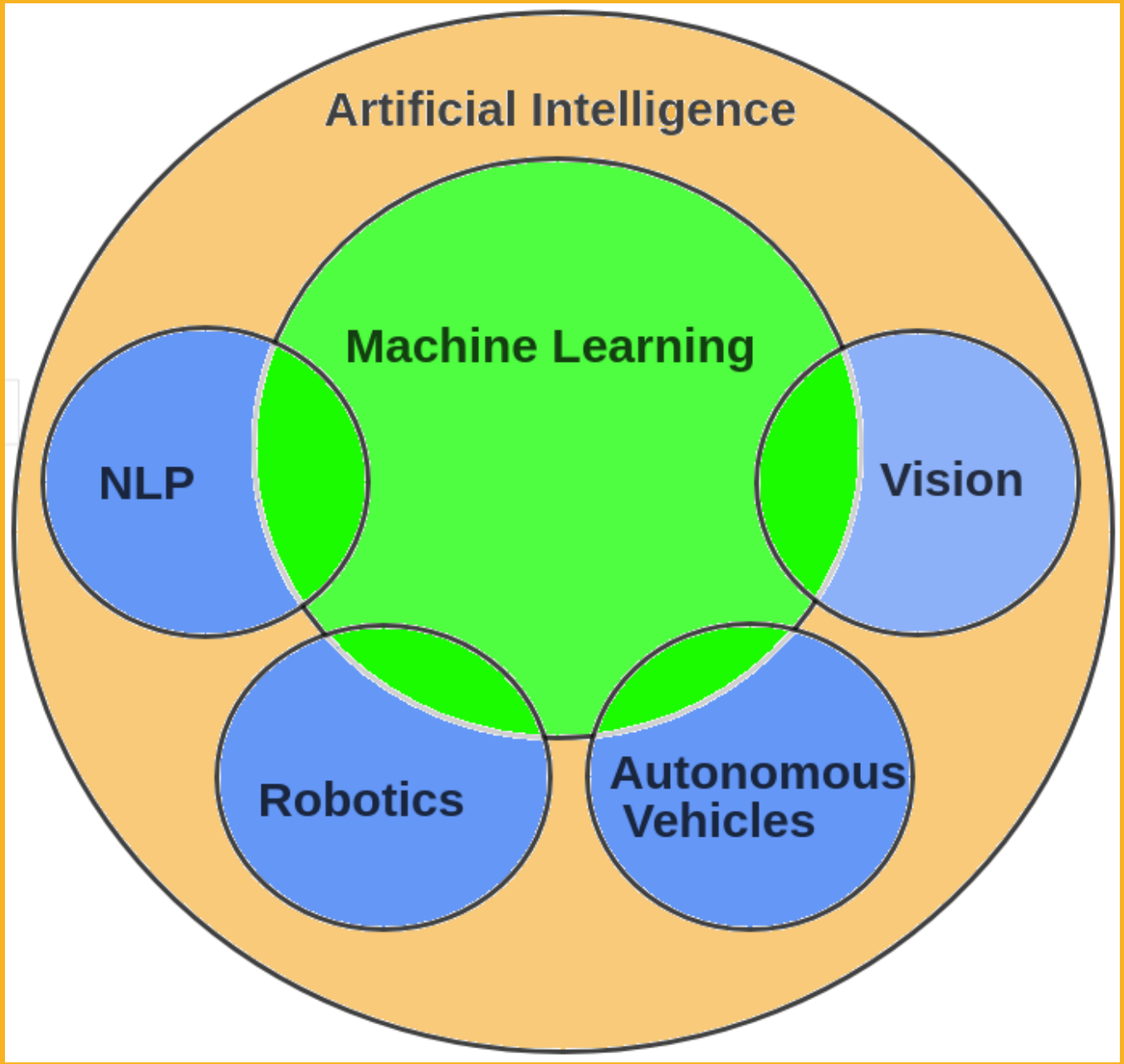
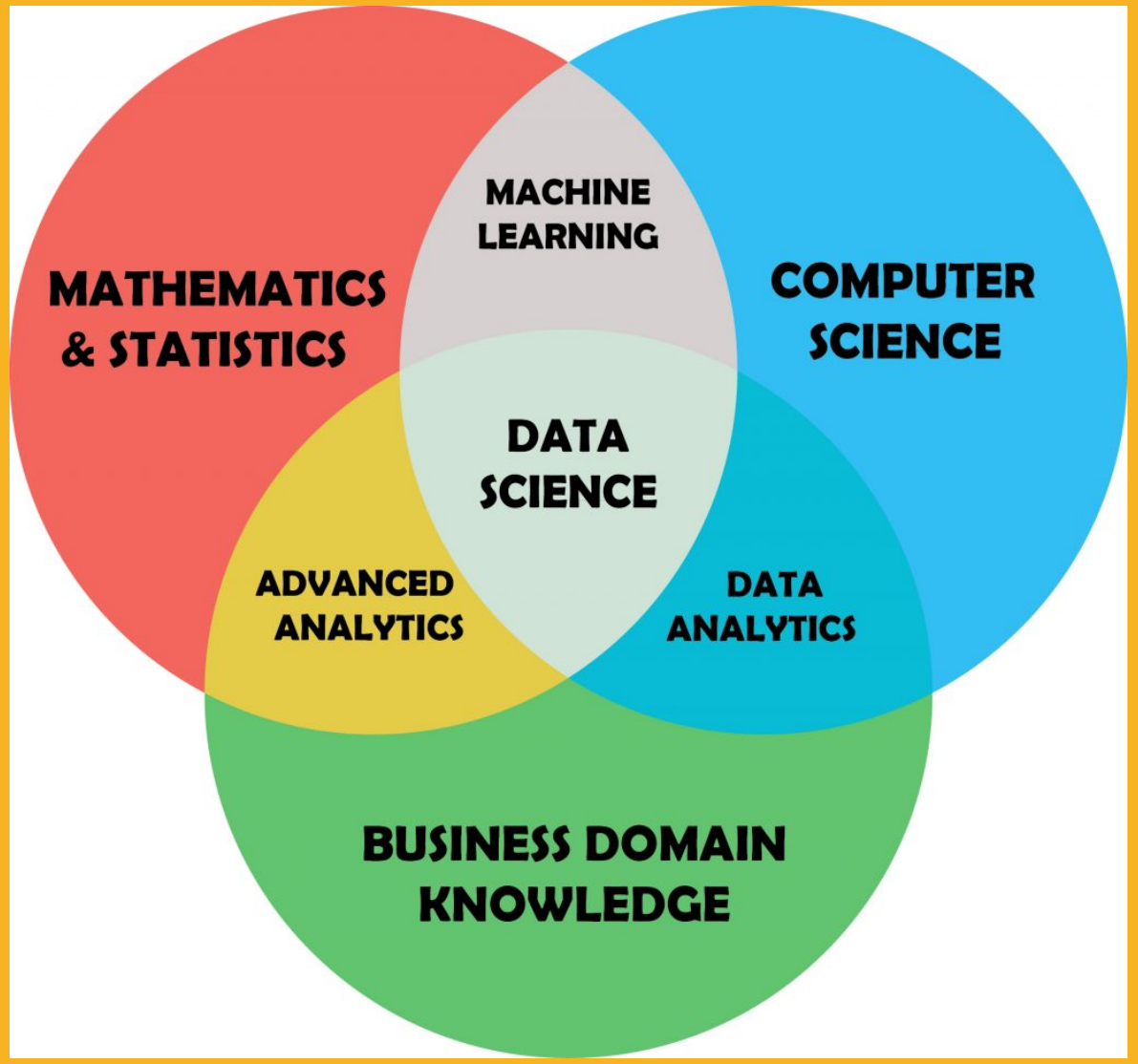

Artificial Intelligence
Machine Learning
NLP
Vision
Robotics
Autonomous Vehicles

2. Machine Learning



ML is the process of teaching a computer system how to make accurate predictions when fed data.

How Mathéo learns to walk with supports of his family and stuff around him(wall, chairs,…).

How to build a model to predict a housing price with data of the houses having been priced.

Step 1: He tries to stand. Every time he falls down, he learns & realizes that his legs should be straight and not in a bend position.

We tries with simple models. If we get high error, we learn that we have to change the parameters (coefficients,..) or get more data.

Step 2: The next time he falls down again, he feels pain. He cries. But, he learns 'not to stand like that again'. In order to avoid that pain, he tries harder.

If we still get high error, we should try to run more iterations.

Step 3: To succeed, he even seeks support from the door or wall or anything near them, which helps him stand firm.

To obtain the best models, we could find the *more complicated models, use a more powerful laptop,…*

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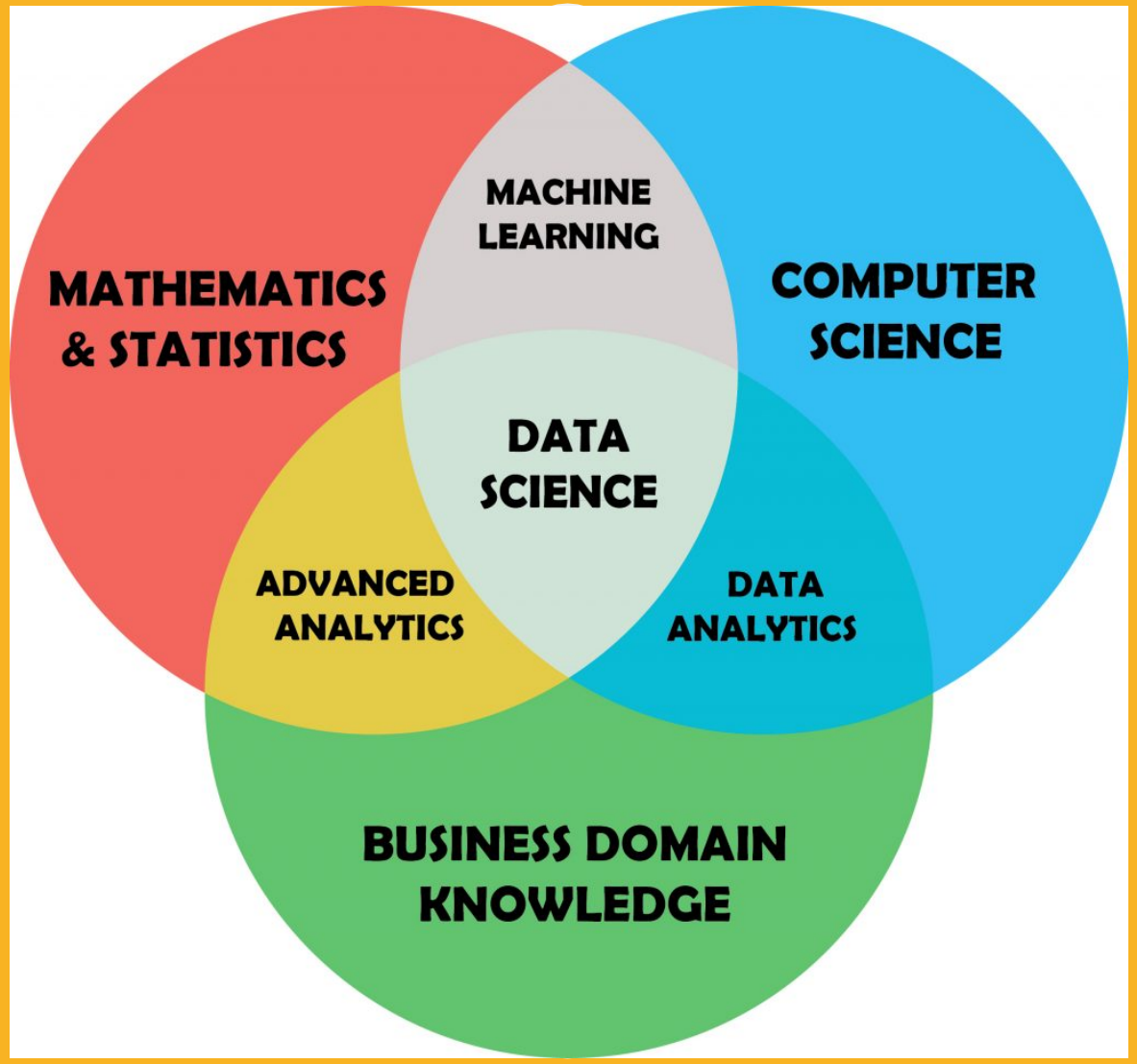
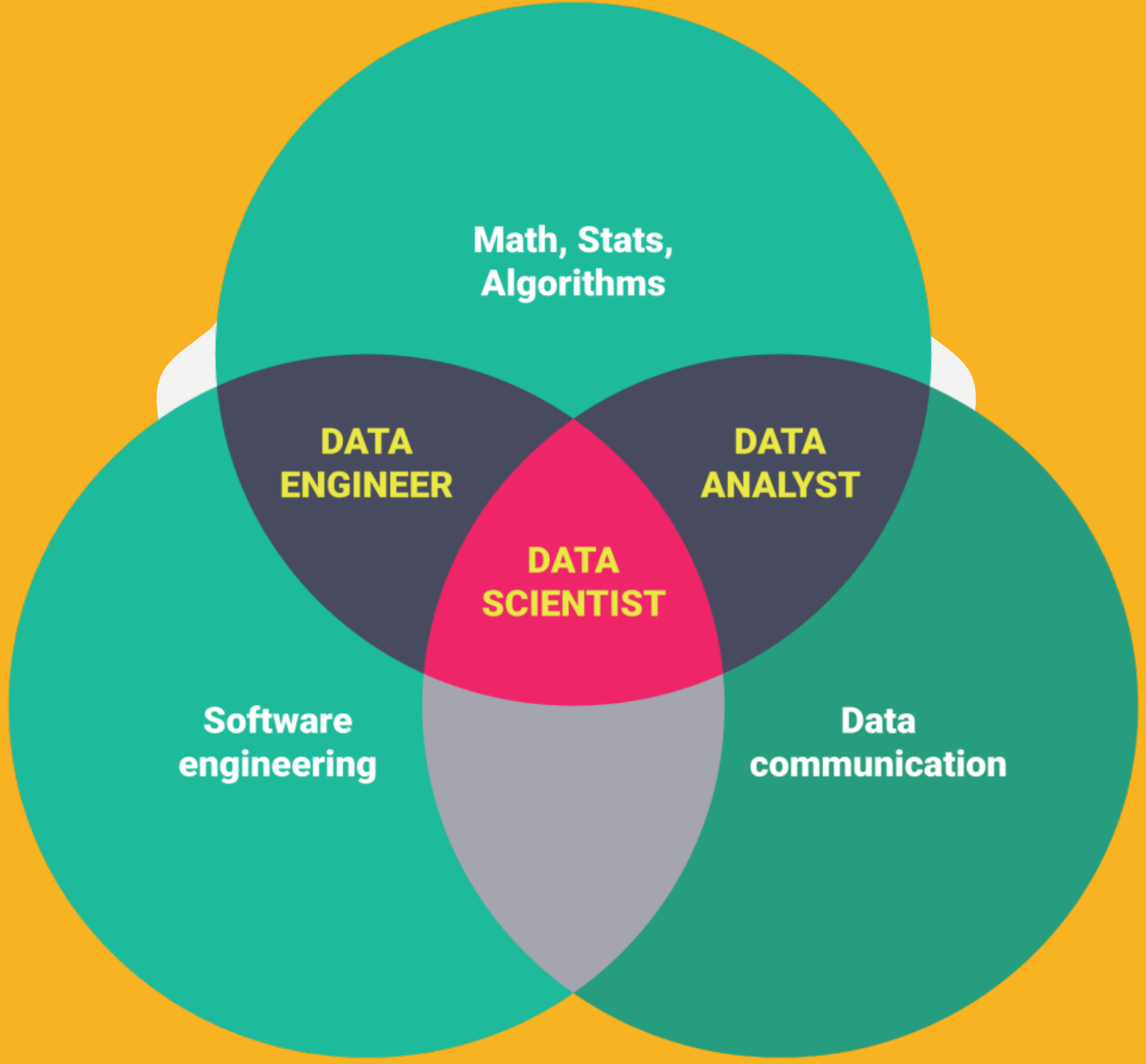
3.Data Science (DS)



Extracting knowledge and insights from data.

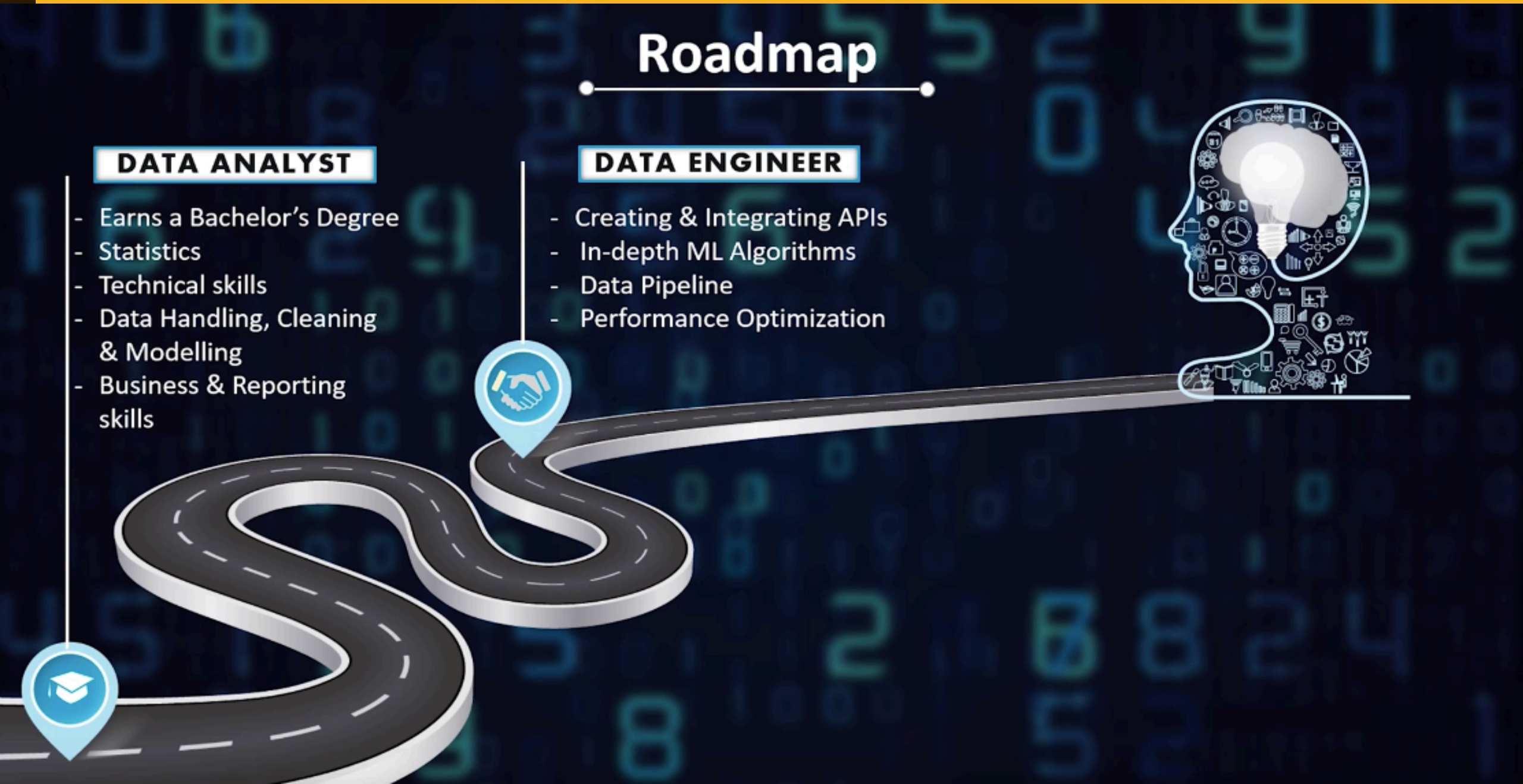
DS jobs


Math, Stats,
Algorithms
DATA
ENGINEER
DATA
ANALYST
DATA
SCIENTIST
Software
engineering
Data
communication

DS Jobs

Roadmap
DATA ANALYST
- Earns a Bachelor's Degree
- Statistics
- Technical skills
- Data Handling, Cleaning & Modelling
- Business & Reporting skills

DS Jobs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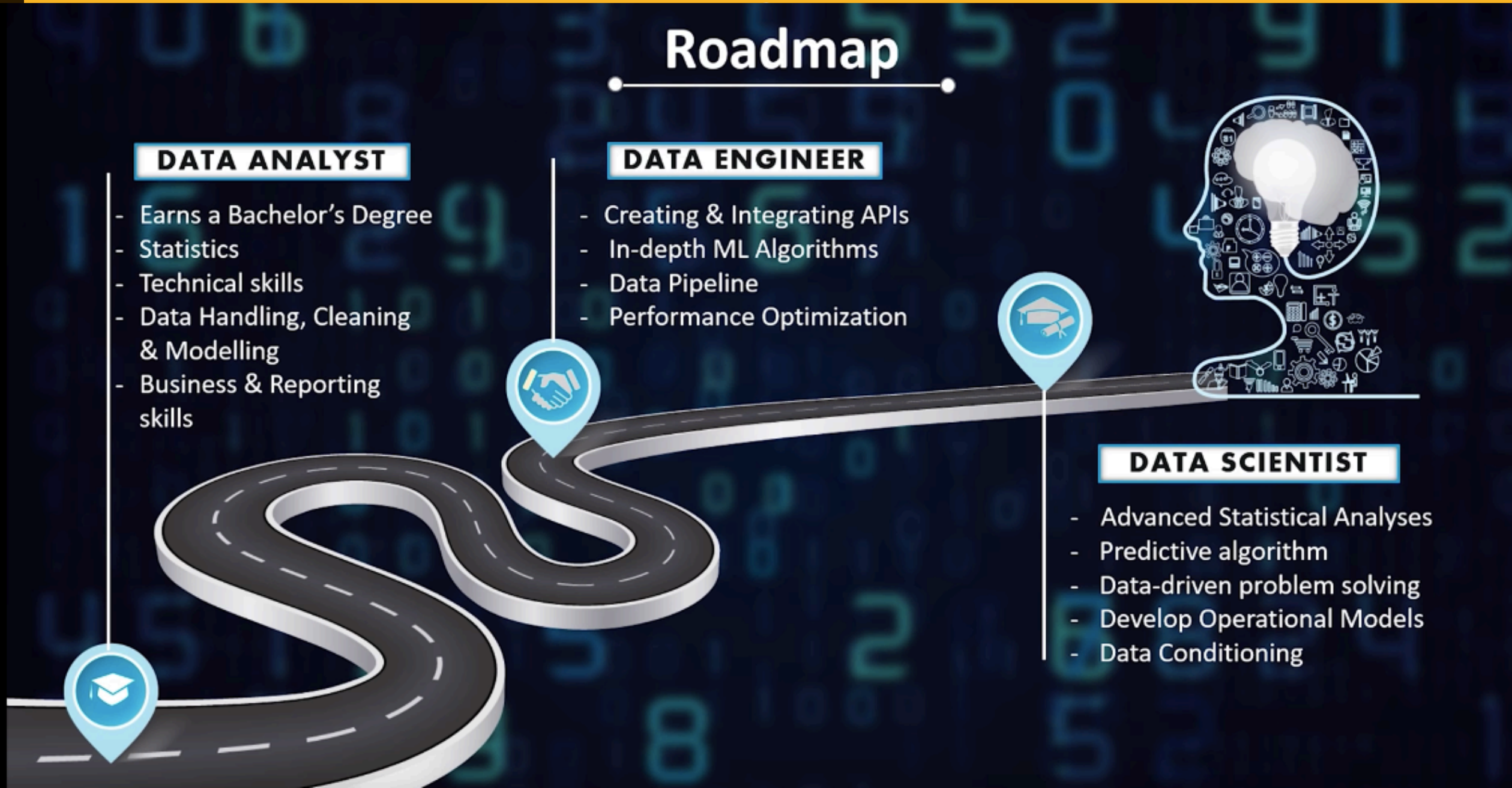
- Creating & Integrating APIs
- In-depth ML Algorithms
- Data Pipeline
- Performance Optimization

DS Jobs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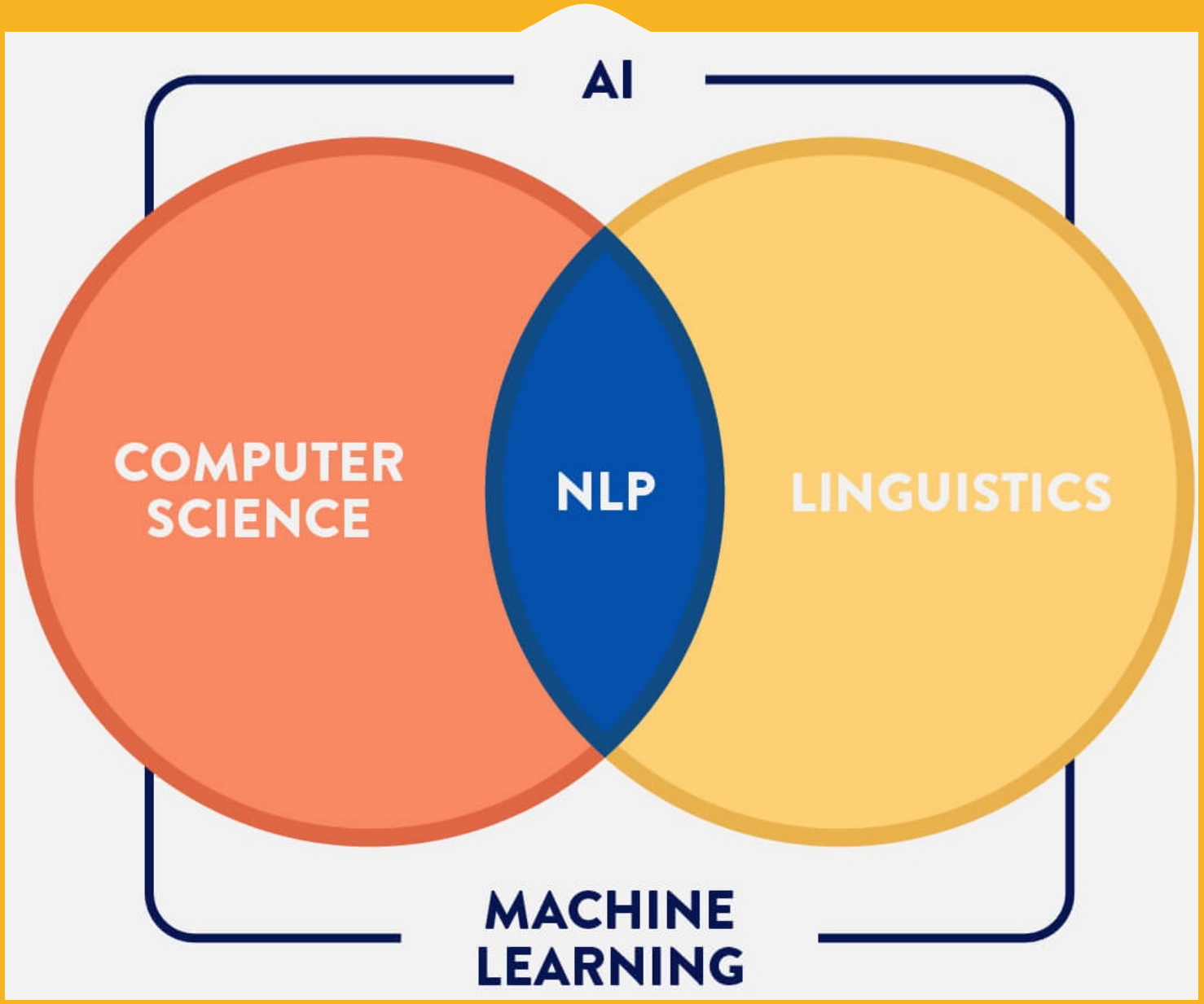
- Performance Optimization
DATA SCIENTIST
- Advanced Statistical Analyses
- Predictive algorithm
- Data-driven problem solving
- Develop Operational Models
- Data Conditioning

Salary

Data Scientist	Data Analyst	Data Engineer
USA $ 137,000	$ 67,000	$ 116,000
FRA 45 K€	41 K€	44 K€

4. Natural Language Processing



NLP is a field of AI that gives the machines the ability to read, understand and derive meaning from human languages.

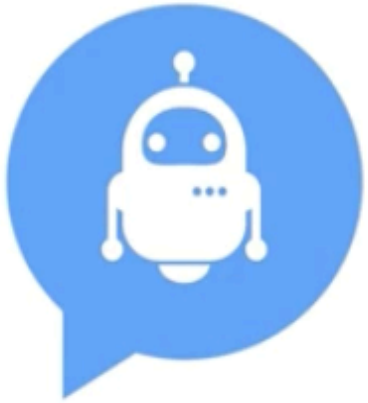
Exemple of NLP:

1. Machine Translation
2. Speech Recognition
3. Language Generation and Multi-document Summarization
4. Text Classification and Categorization

Applications of NLP:

Speech Transcription

Neural Machine Translation (NMT)



Chatbots

Q&A

Text Summarization

Image Captioning

Video Captioning

- …:

  love, like, want, live, forever

  I love you but I don't like you, however, I want to live with you forever!!

- …:

  beautiful, day, except, wind.

  It was a beautiful day, except for the wind.

- Emma Watson:

  Long, awesome

  Long is so so awesome.

- …:

  depress, confine, coronavirus, pandemic

  We are depressed when being confined because of coronavirus pandemic

- …:

  wow, stunning, human

  Wow! You're such a stunning human be-ING!

- …:

  hotel, room, cold

  My hotel room is a little cold!

- …:

  dislike crazy project

  I don't think there is anything I dislike about this crazy project!

- Nhật
  like, yoga
  he likes yoga

- Nhật:
  like, city, Germany, recreate, war
  Like many cities in Germany, it had to re-create itself after the second world war.

4. DS Project – NLP: Twitter Sentiment Analysis

1. Problématique: *L'humeur de Trump avant et après élection 2015*
2. Exploration des données: *Sentiment140*
3. Visualisation des données
4. Itération: construction du modèle et évaluation
5. Perspectives
6. Conclusion

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CẢM ƠN ĐỒNG BỌN & COVID-19

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