



Quality & AI

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Definitions

Data – Data refers to a **collection of factual information, facts, statistics, or pieces of information** that are **collected, organized, and used** for various purposes. Data can take various forms, including numbers, text, images, audio, and more. *It serves as the raw material from which insights, patterns, and conclusions can be derived through analysis and interpretation.*

Data is a crucial resource in various fields, including science, business, healthcare, finance, and more. It is used to make informed decisions, uncover patterns and trends, develop insights, and drive innovation. The process of extracting meaningful information from data is known as data analysis, and it plays a vital role in many aspects of modern life.



Definitions

AI – AI stands for "Artificial Intelligence". *It refers to the simulation of human intelligence processes by computer systems.*



Definitions

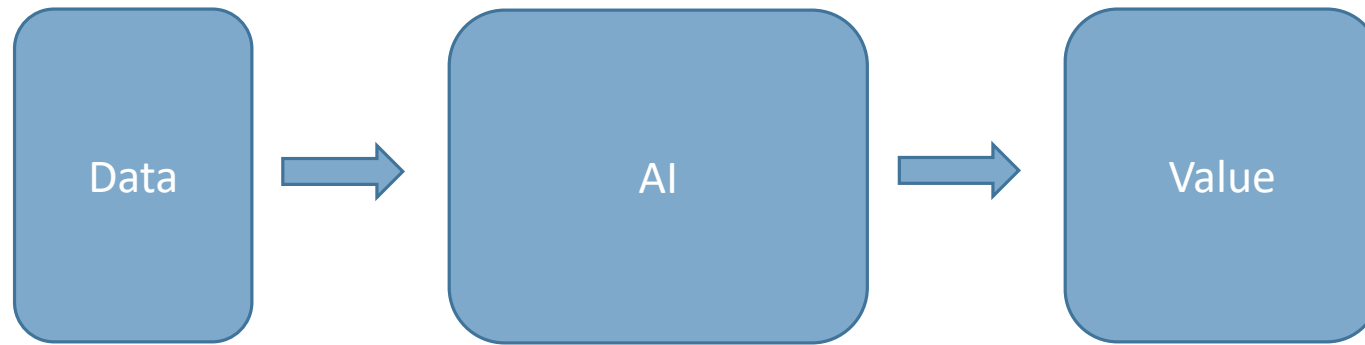
AI – AI stands for "Artificial Intelligence". *It refers to the simulation of human intelligence processes by computer systems.* These systems can be broadly categorized into two main types:

Narrow or Weak AI: This type of AI is designed and trained for a specific task or a limited range of tasks. It operates within a defined domain and excels at performing the tasks it has been trained for.

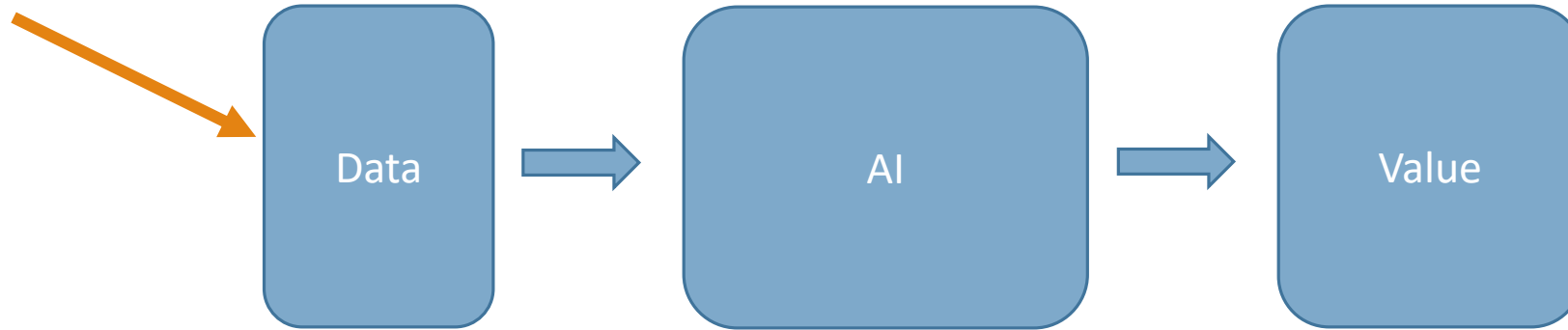
General or Strong AI: This type of AI, which **does not currently exist**, would possess human-like intelligence and be capable of understanding, learning, and performing any intellectual task that a human being can. It would exhibit a high level of adaptability across different domains and tasks.



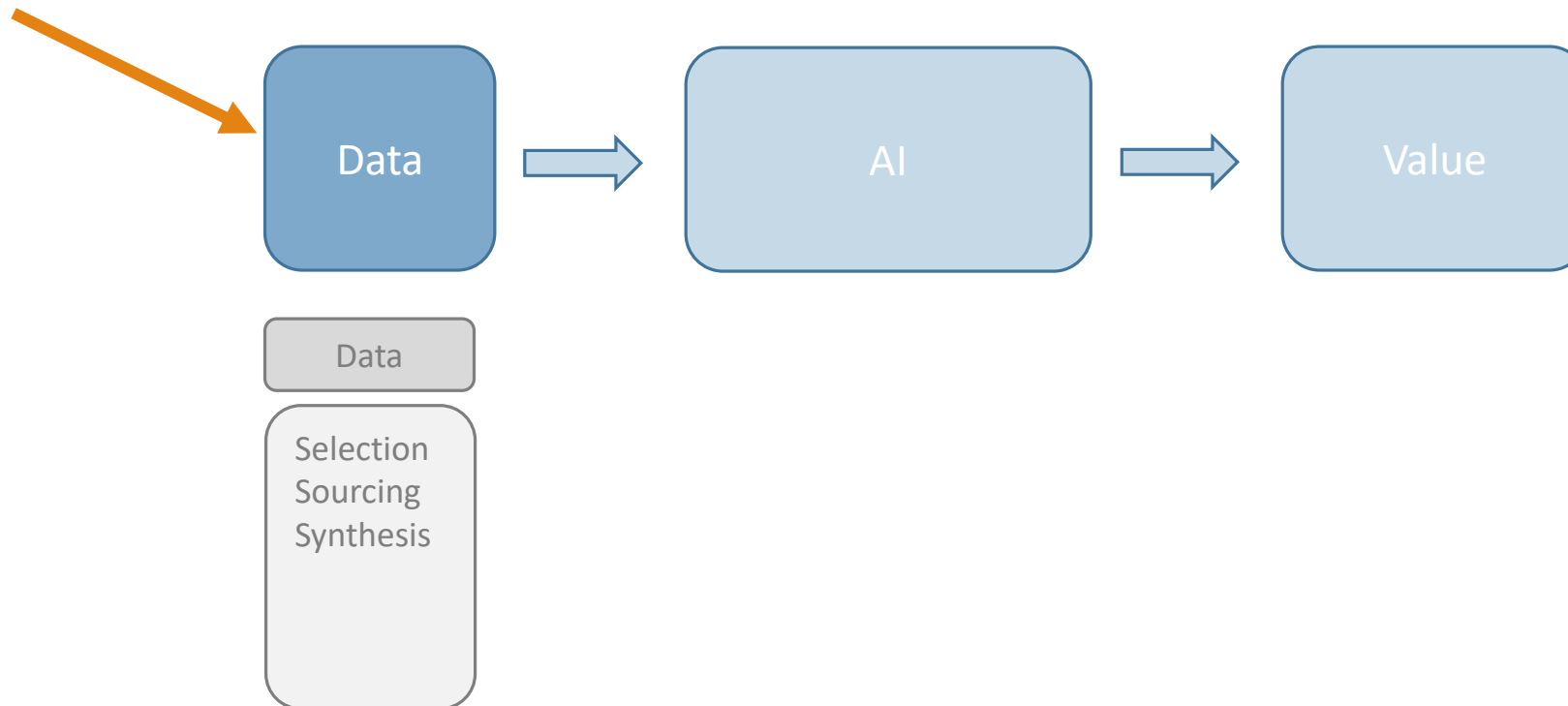
The process



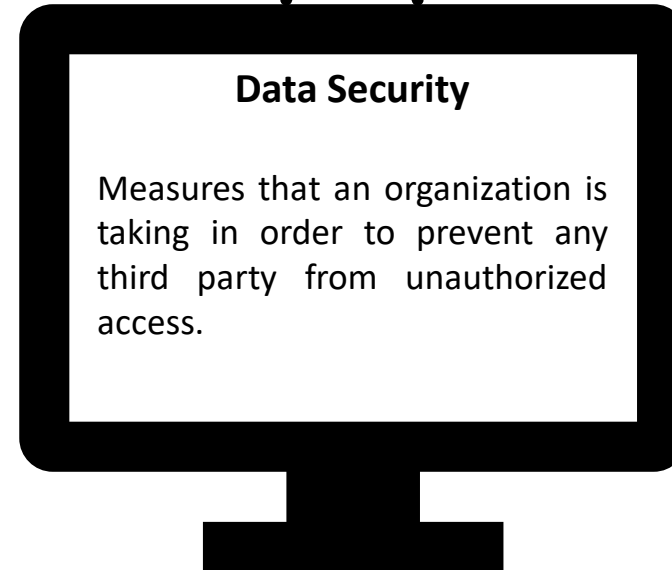
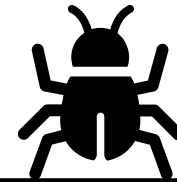
The process



The process



The process



The process



WE'VE DECIDED
TO TAKE BIG
DATA TO THE
NEXT LEVEL...



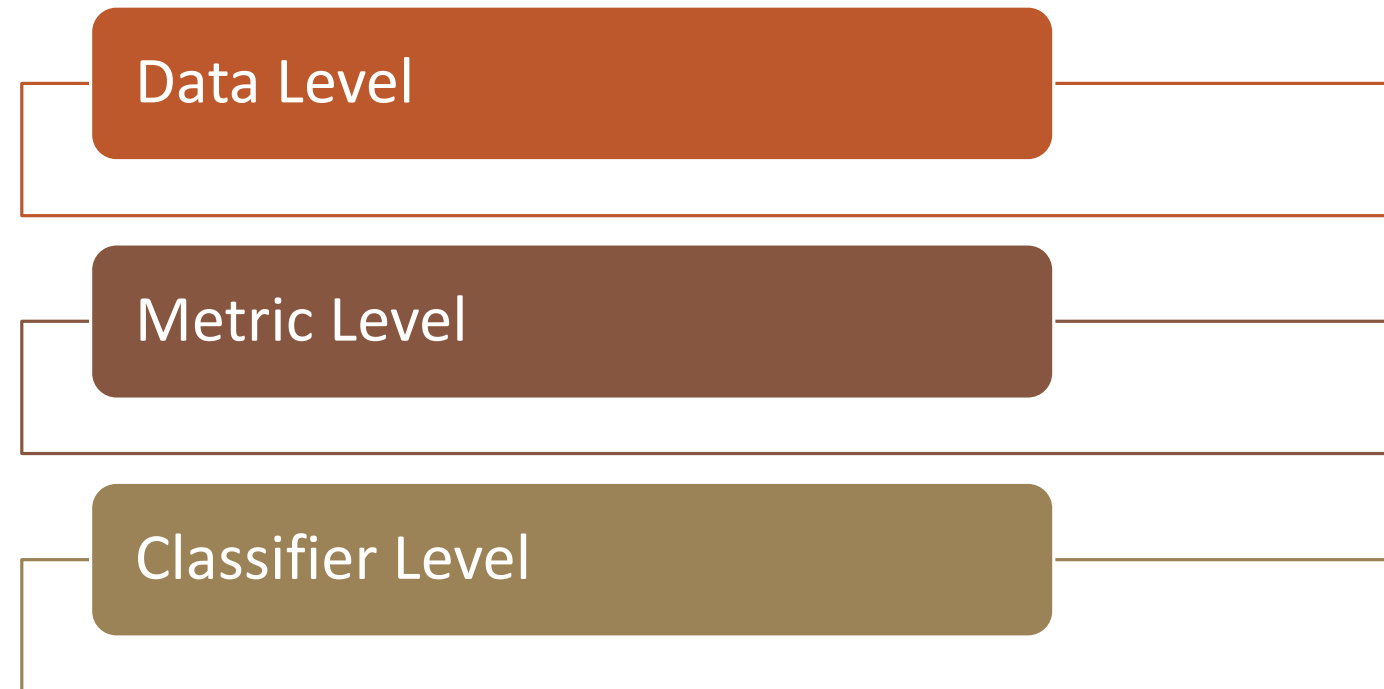
**HUMONGOUS
DATA**

The process



The process

Techniques for handling **Class Imbalance**:



The process

Techniques for handling **Class Imbalance**:

Data Level

- Undersampling the majority class
- Oversampling the minority class

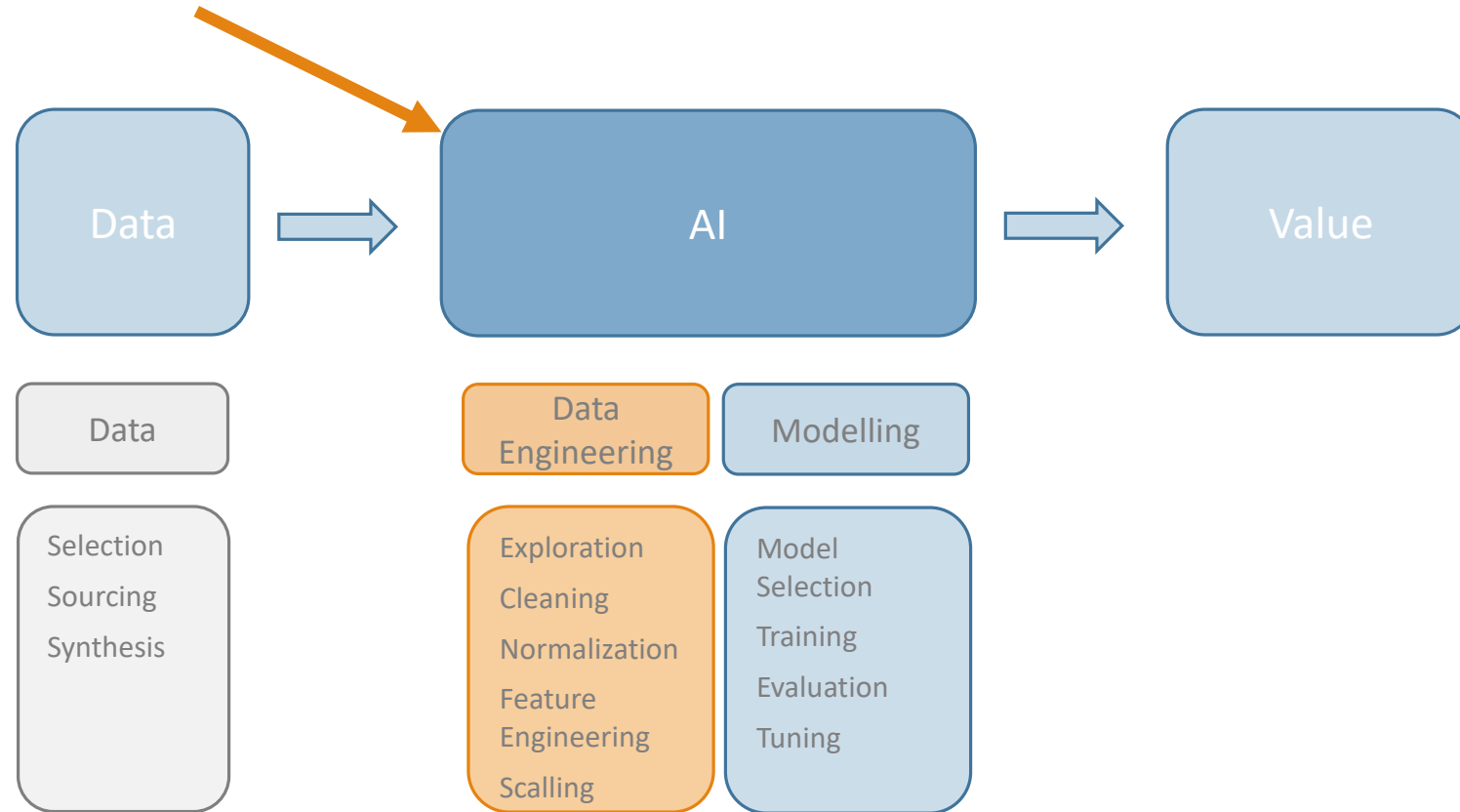
Metric Level

- Consider metrics not biased

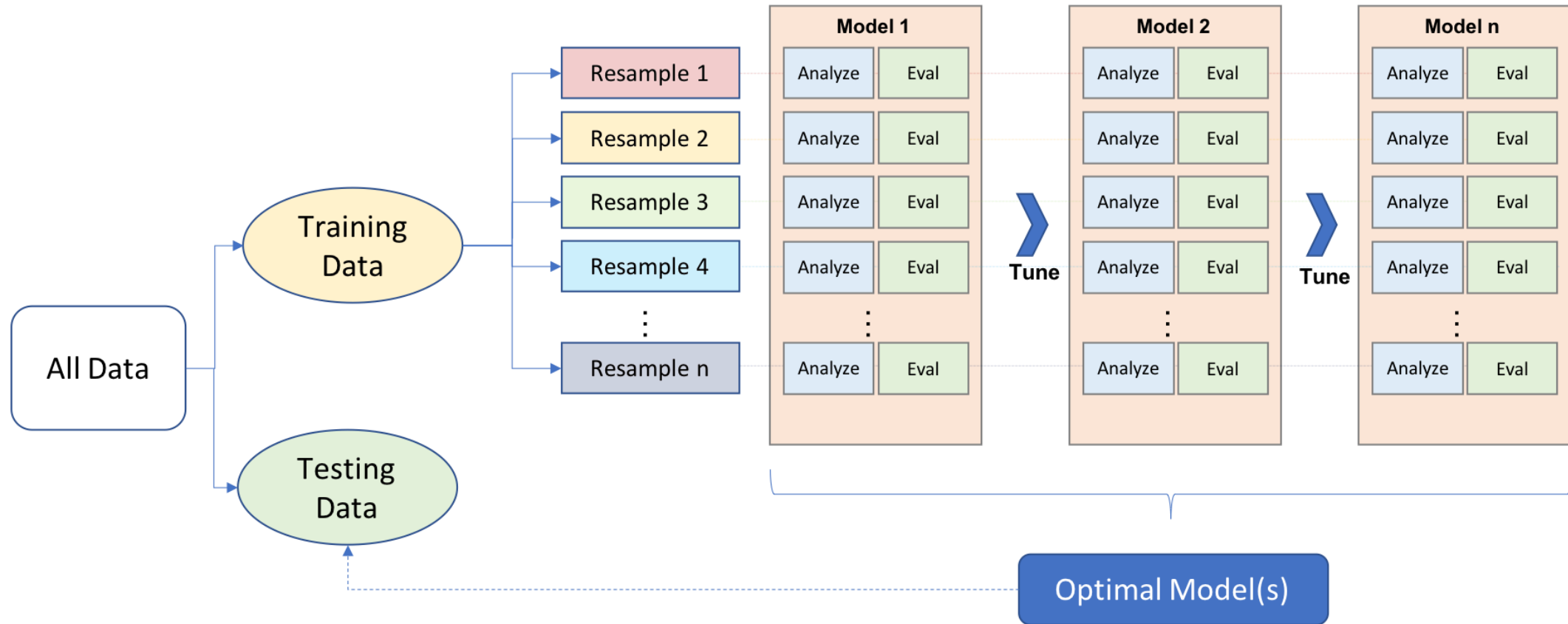
Classifier Level

- Penalize learning algorithms
- Ensemble methods
- One-Class classification

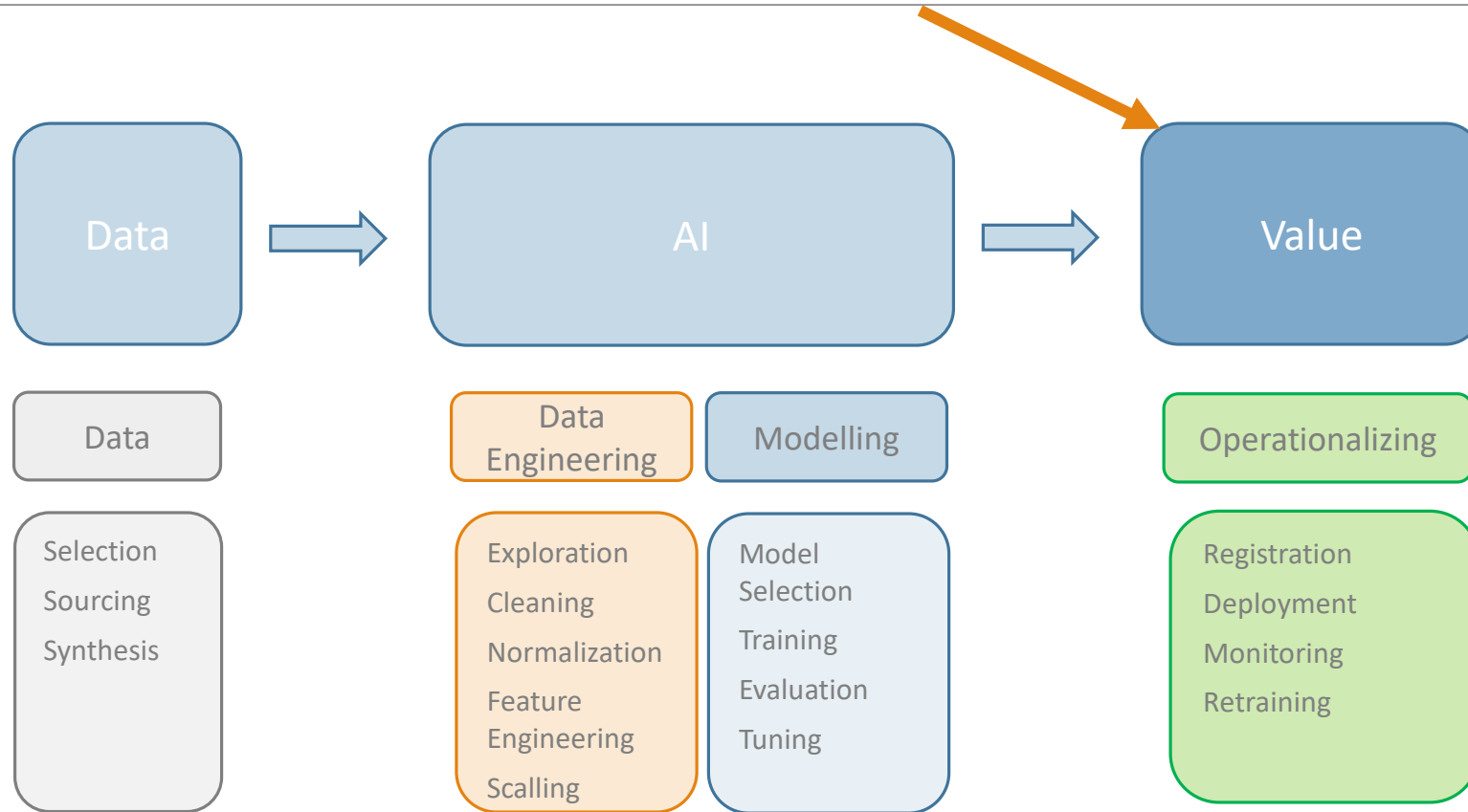
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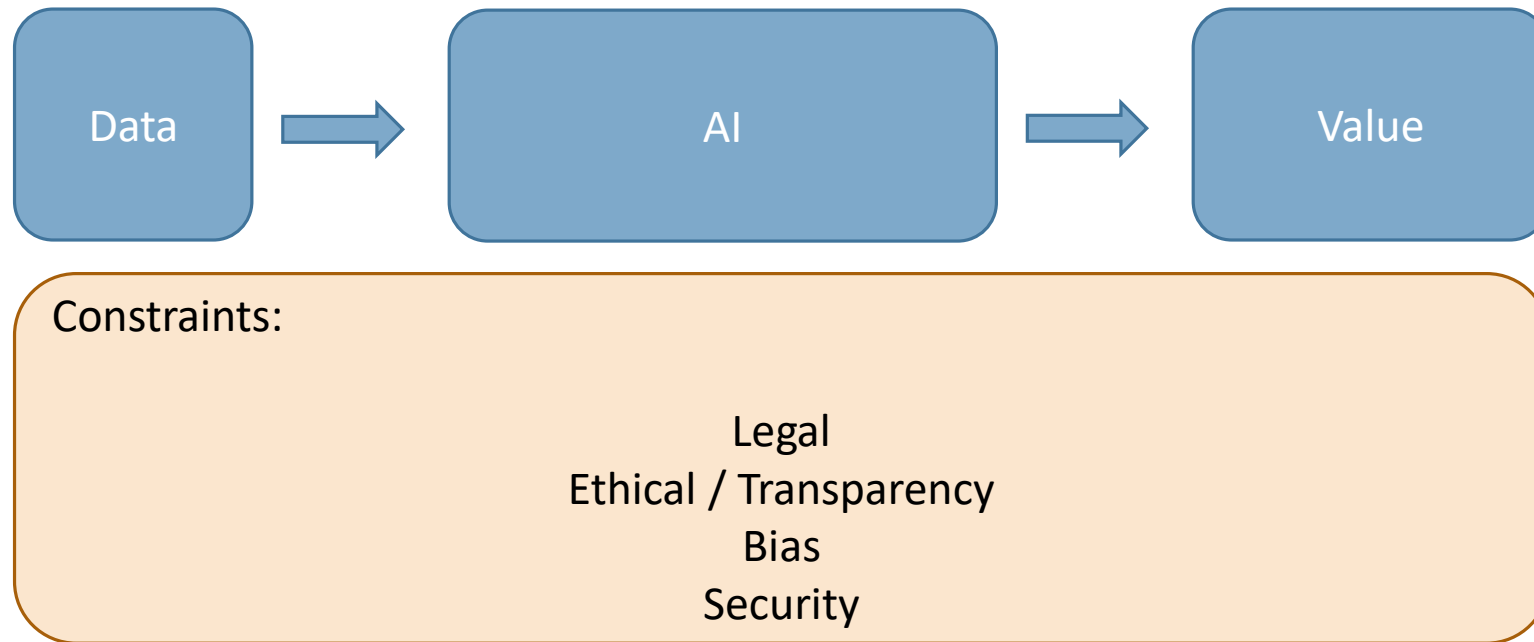
The process



The process



The process





Ethics

No matter what will the future and the applications of AI, there are something that always should be guarantee: **Ethics**.

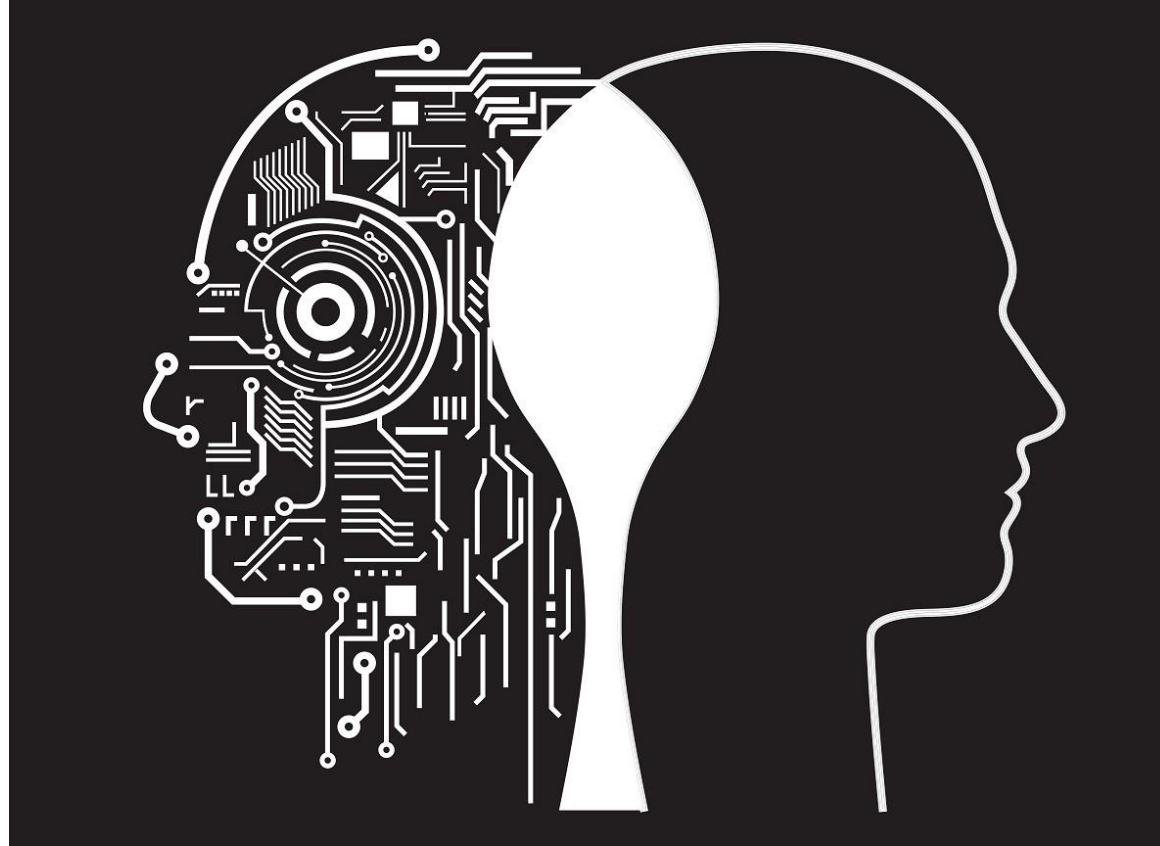


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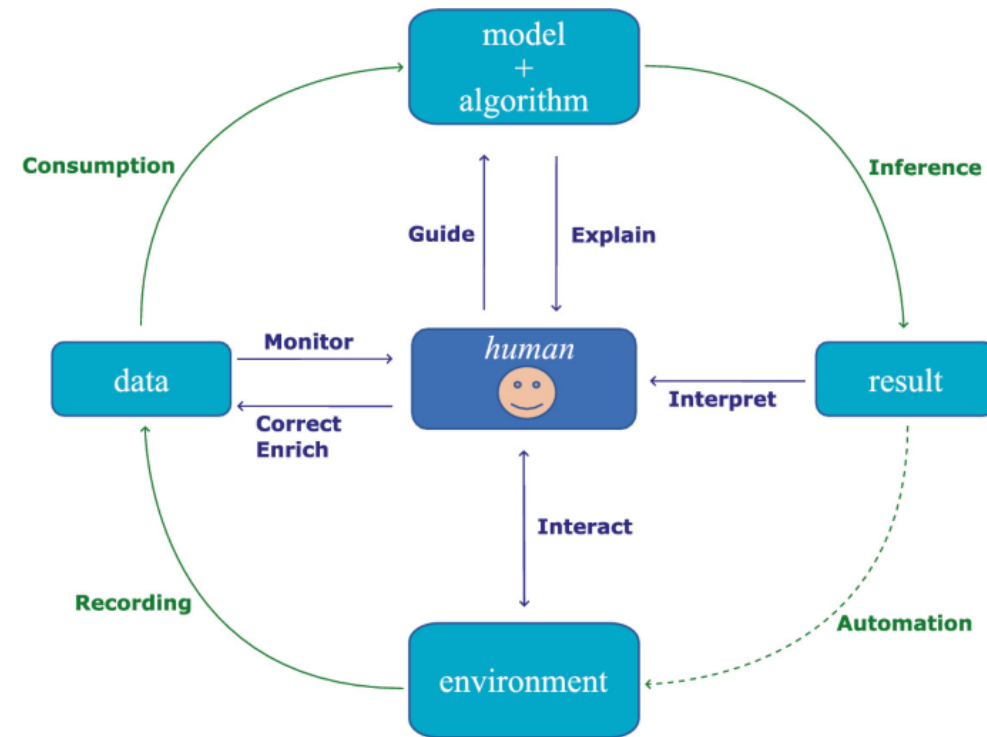
Ethical and Regulatory Concerns: As AI and data usage become more prevalent, ethical considerations and regulations around data **privacy, bias, transparency**, and accountability are likely to grow in importance. Striking a balance between innovation and responsible use will be crucial.

Acceptance

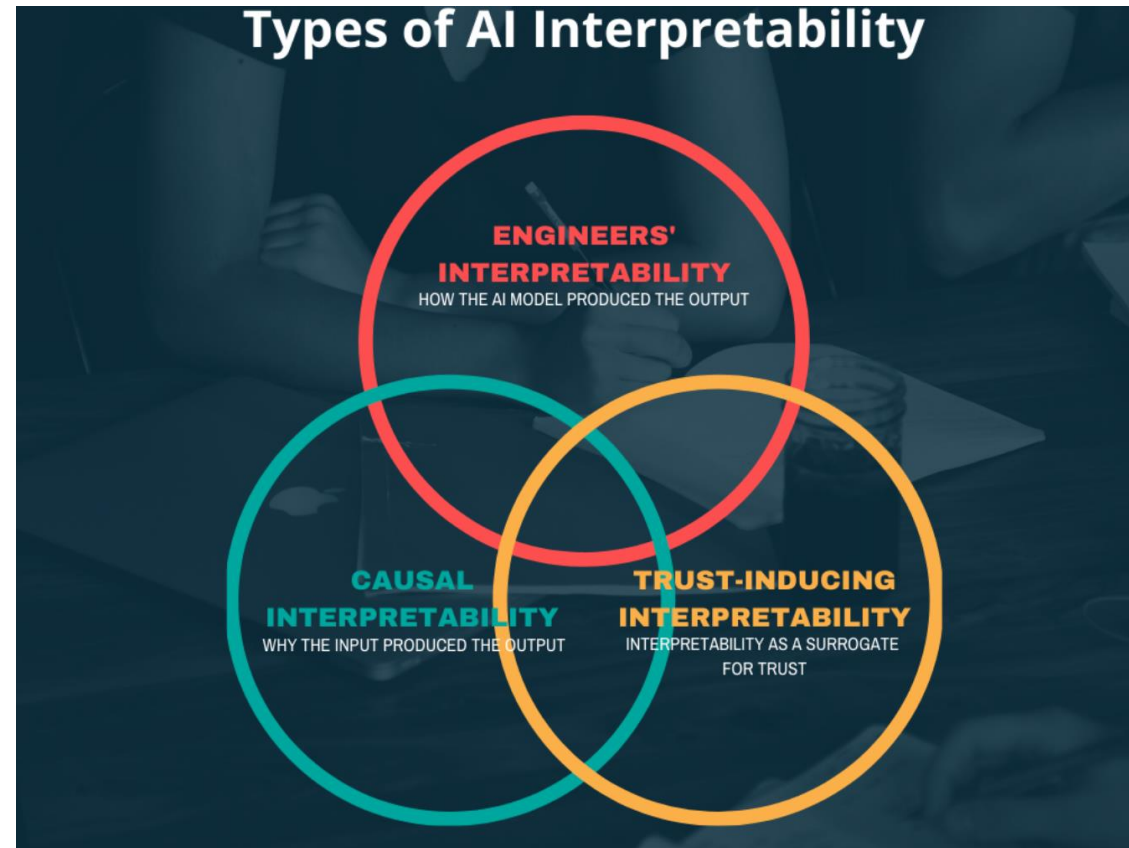


Acceptance

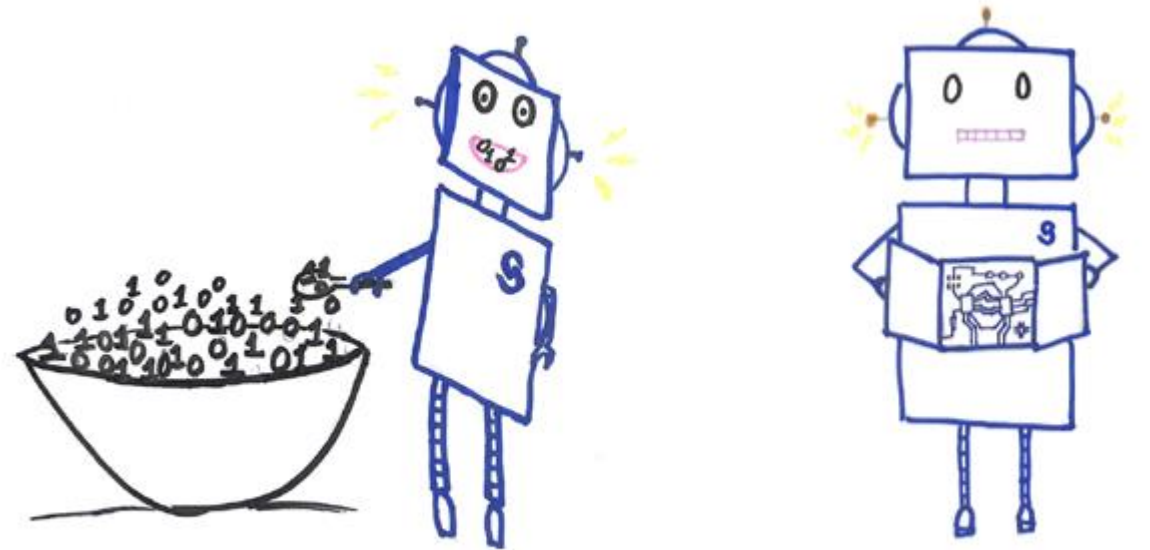
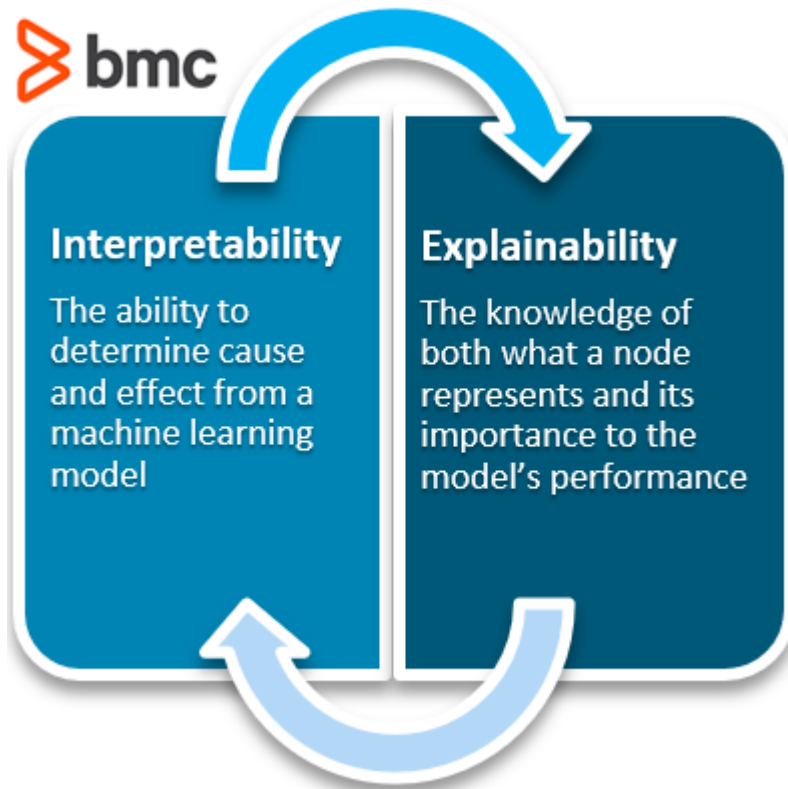
Acceptance of AI is dependent on the concept understanding.



Interpretability and Explainability

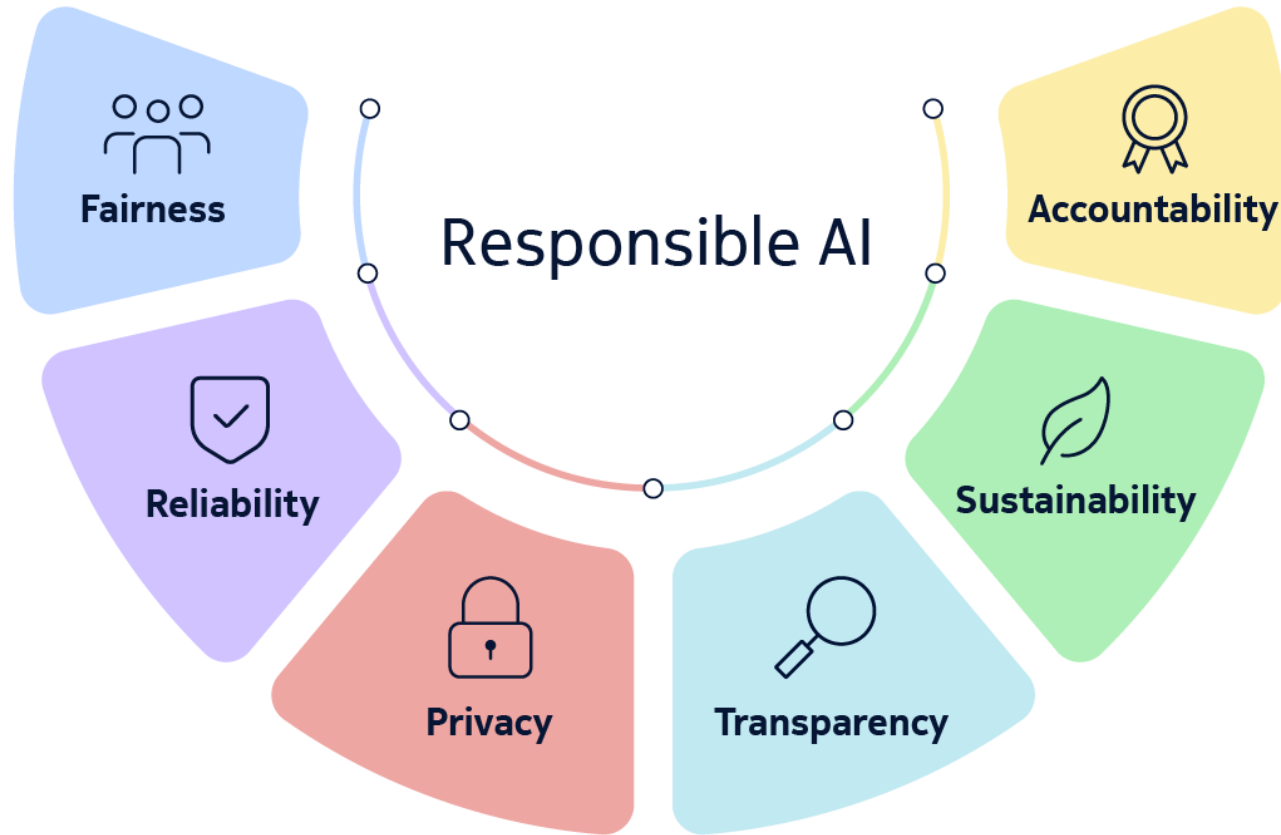


Interpretability and Explainability



Responsible AI







Buzzwords

Interpretability

Security

Explainability

Privacy

MLOps

Responsible

Fairness

Representativeness