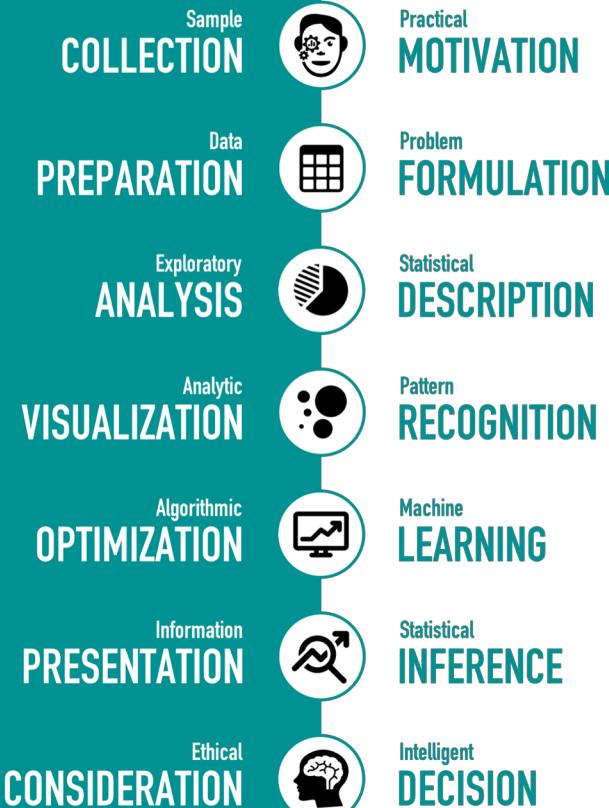


# Data Science Problems

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## Data Science Common Problems

### Five Primary Questions

- How much? How many?
- Is it type A or type B?
- How is this organized?
- Is it a weird behavior?
- What should be done next?

<https://www.youtube.com/watch?v=0XyV91VYrDs>



# Data Science Common Problems

**Prediction : Numeric**

**How much?  
How many?**

What is the expected Sales of the  
next game of this game franchise?  
Is it profitable to make the sequel?

<https://www.youtube.com/watch?v=0XyV91VYrDs>



# Data Science Common Problems

**Prediction : Classes**

**Is it type A  
or type B?**

What is the chance that a student  
will get into NTU in AY2019-2020?  
Will an application be successful?

<https://www.youtube.com/watch?v=0XyV91VYrDs>



## Data Science Common Problems

**Detection : Structure**

# How is this organized?

Is there any structure apparent  
within the FairPrice customers?  
Which customer group to target?

<https://www.youtube.com/watch?v=0XyV91VYrDs>



# Data Science Common Problems

Detection : Anomaly

Is it weird  
behavior?

Is this Boeing engine behaving in unusual fashion during the flight?  
Is the engine still safe to operate?

<https://www.youtube.com/watch?v=0XyV91VYrDs>



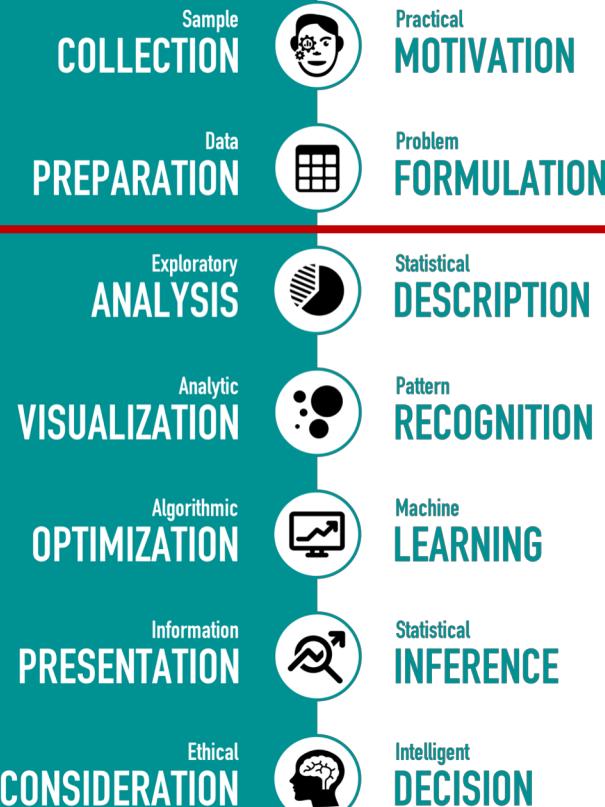
# Data Science Common Problems

**Decision : Action**

## What should be done next?

Should brake at the Yellow Light or  
should the car accelerate instead?  
Which action will be rewarded?

<https://www.youtube.com/watch?v=0XyV91VYrDs>



## Data Science Pipeline Problem Formulation

What is the practical Motivation?  
How to acquire the relevant Data?  
How to prepare the acquired Data?

**How to intelligently  
formulate a problem?**