UnlockHR
TRANSFORMING WORKPLACE THROUGH ANALYTICS

What is this document about?

- Anatomy of Statistical Modeling
  - It is a step by step approach towards building analytical projects as it reflects what is to be done next in the journey.
  - Stage by Stage breakdown of activities
  - This tool will always help you in the process and bring you out of any confusion ever.
  - It is designed to know how a project is done in the analytics and statistical areas, as to what comes after what and which technique needs to be used. How to clean data, prepare data, and model data.

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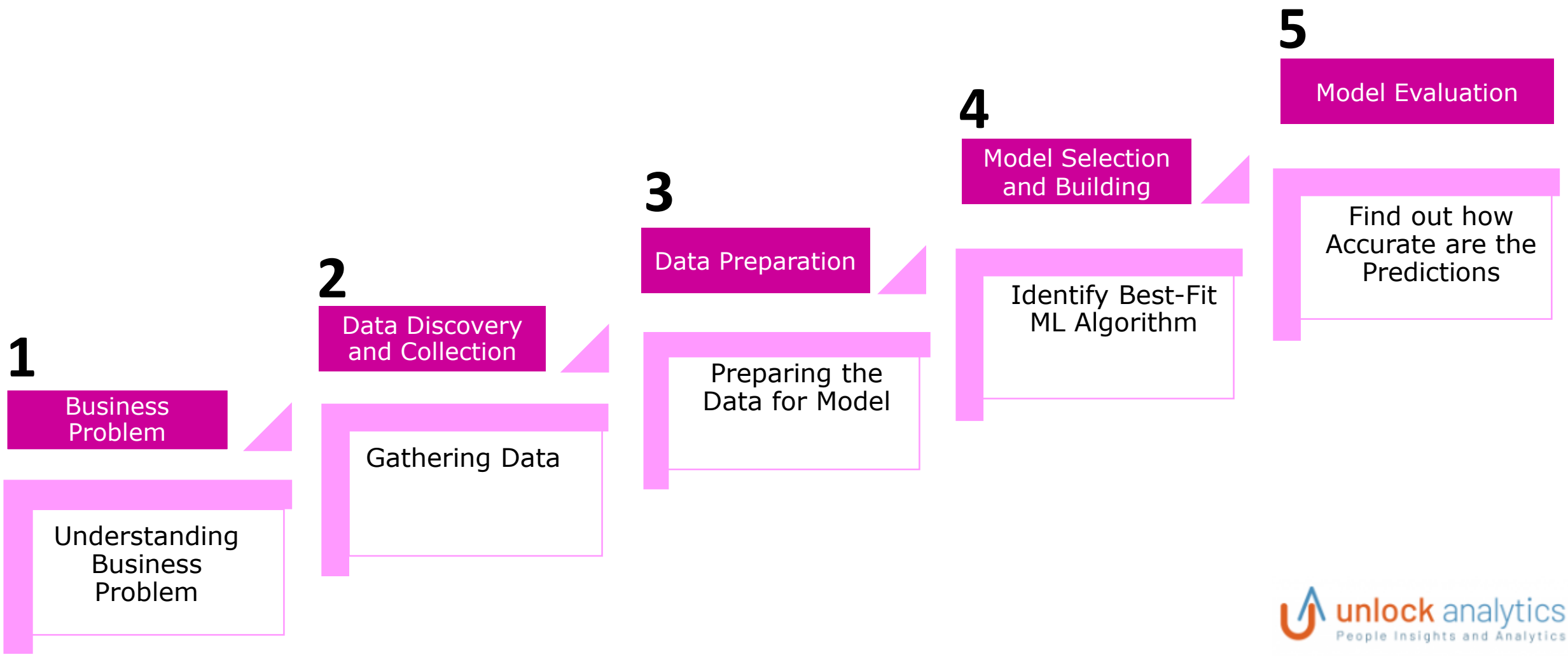
Anatomy of Statistical Model

A step-by-step approach to solve a Business Problem



Anatomy of Statistical Model

A step-by-step approach to solve a Business Problem

- Understand Project Objectives
- Define the Problem
- Investigate Question and gather Requirements
- Convert into a Statistical Problem

Anatomy of Statistical Model

A step-by-step approach to solve a Business Problem

- Understand Data
- Define Variables and Create Data Dictionary
- Validate for Correctness

Anatomy of Statistical Model

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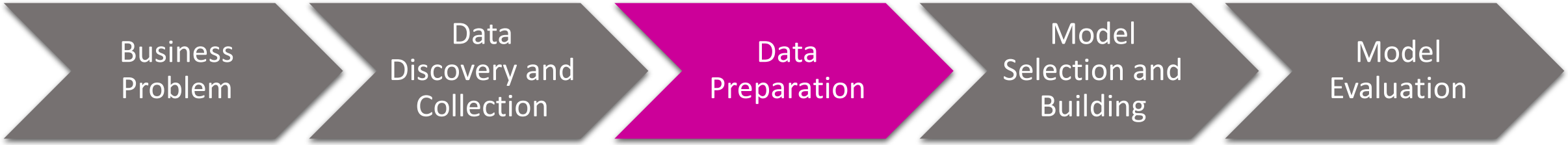

- Univariate Analysis
- Data Cleaning
- Feature Engineering
- Bivariate Analysis and Hypothesis Testing
- Data Split

Anatomy of Statistical Model

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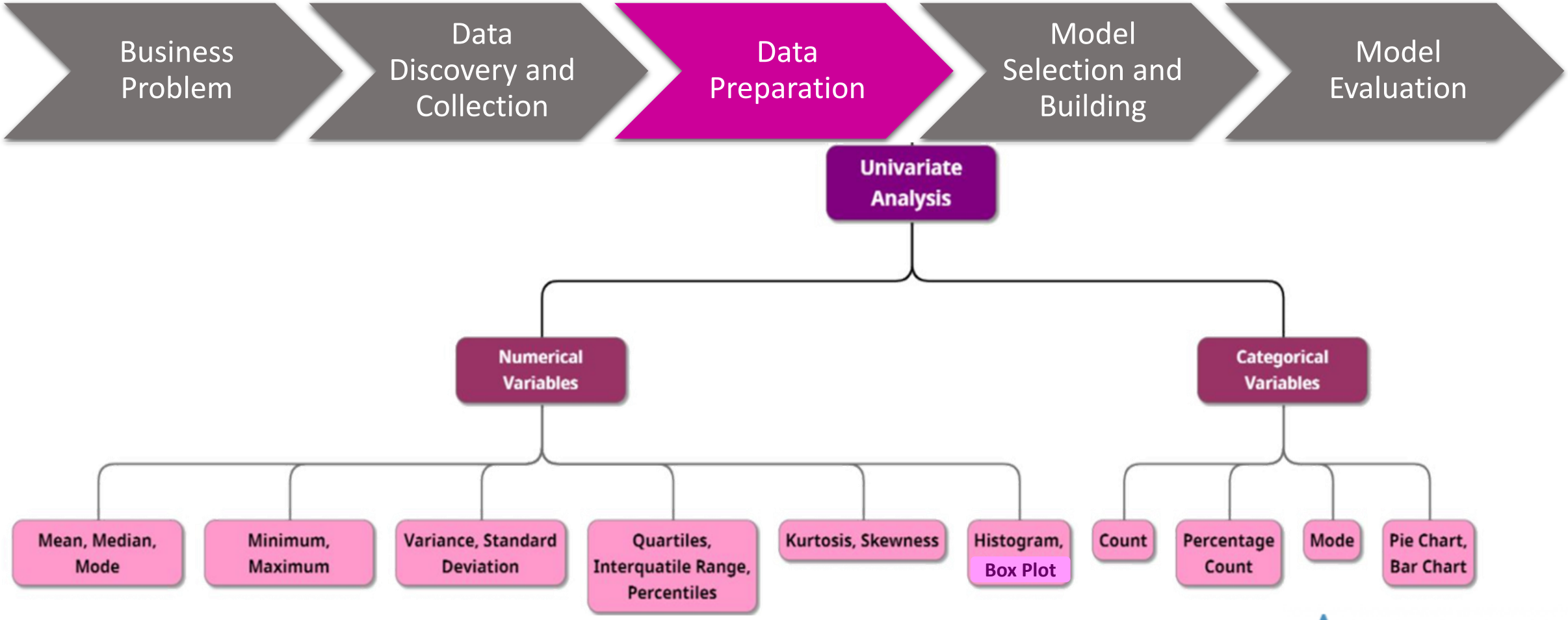
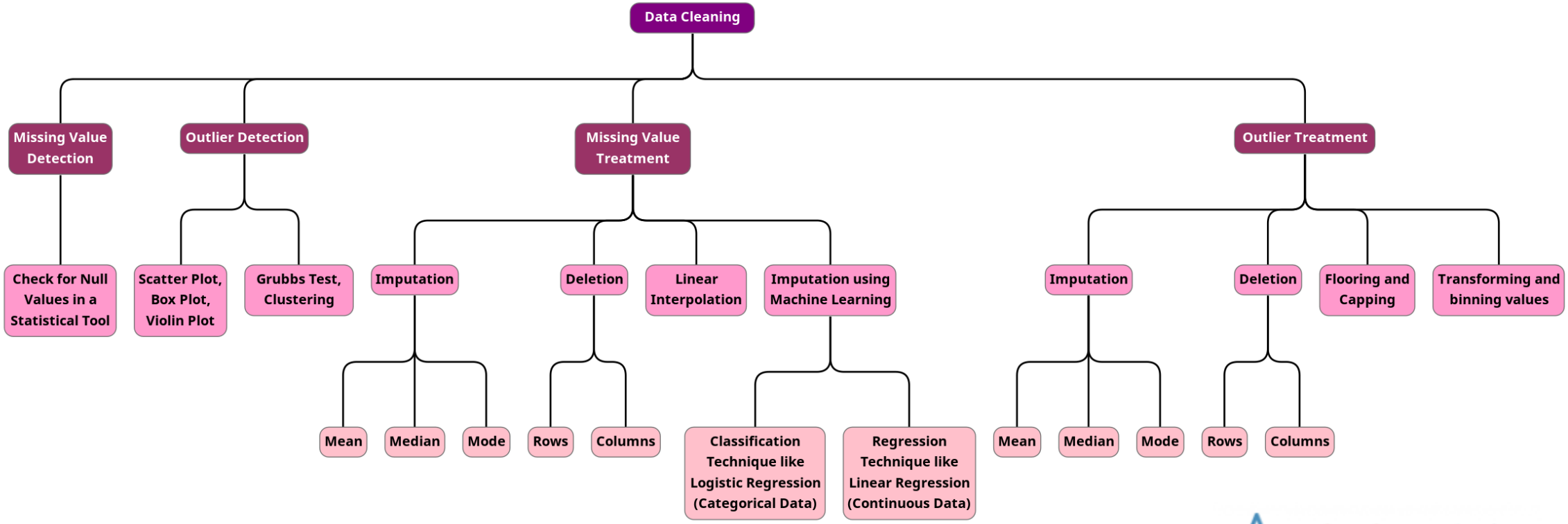


Anatomy of Statistical Model

A step-by-step approach to solve a Business Problem

Business Problem → Data Discovery and Collection → **Data Preparation** → Model Selection and Building → Model Evaluation



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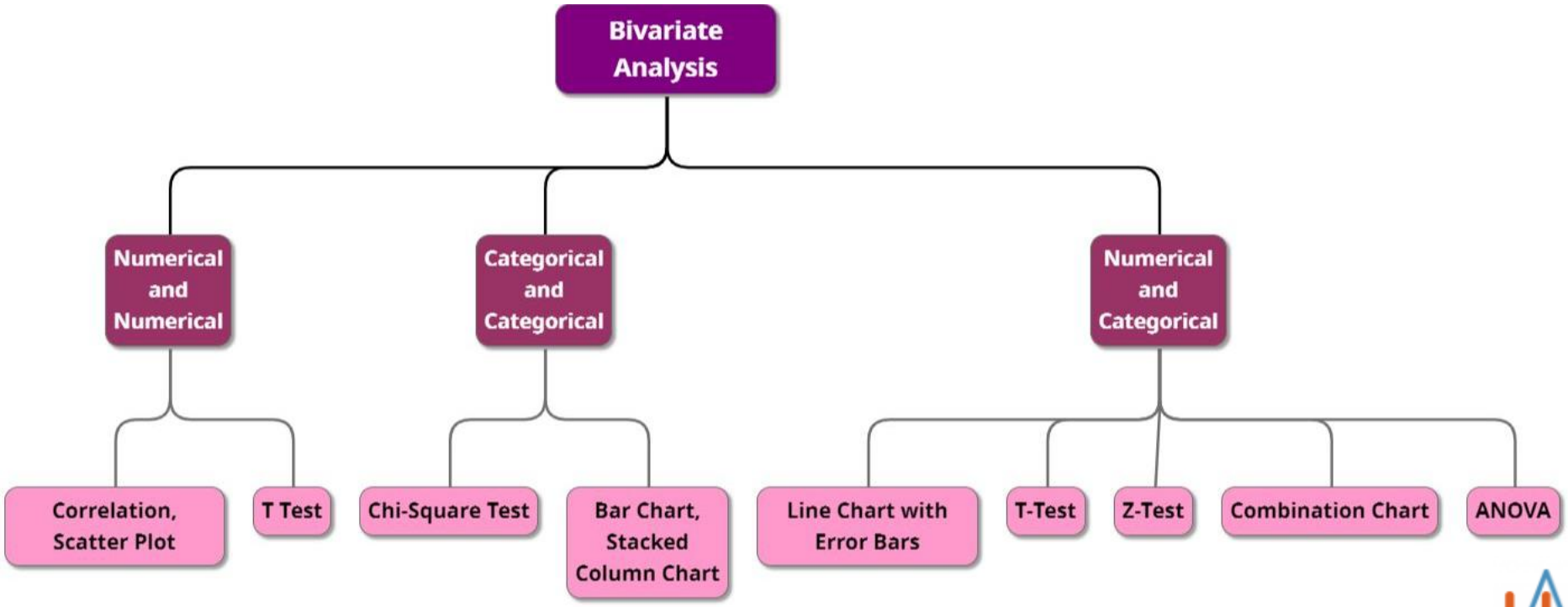

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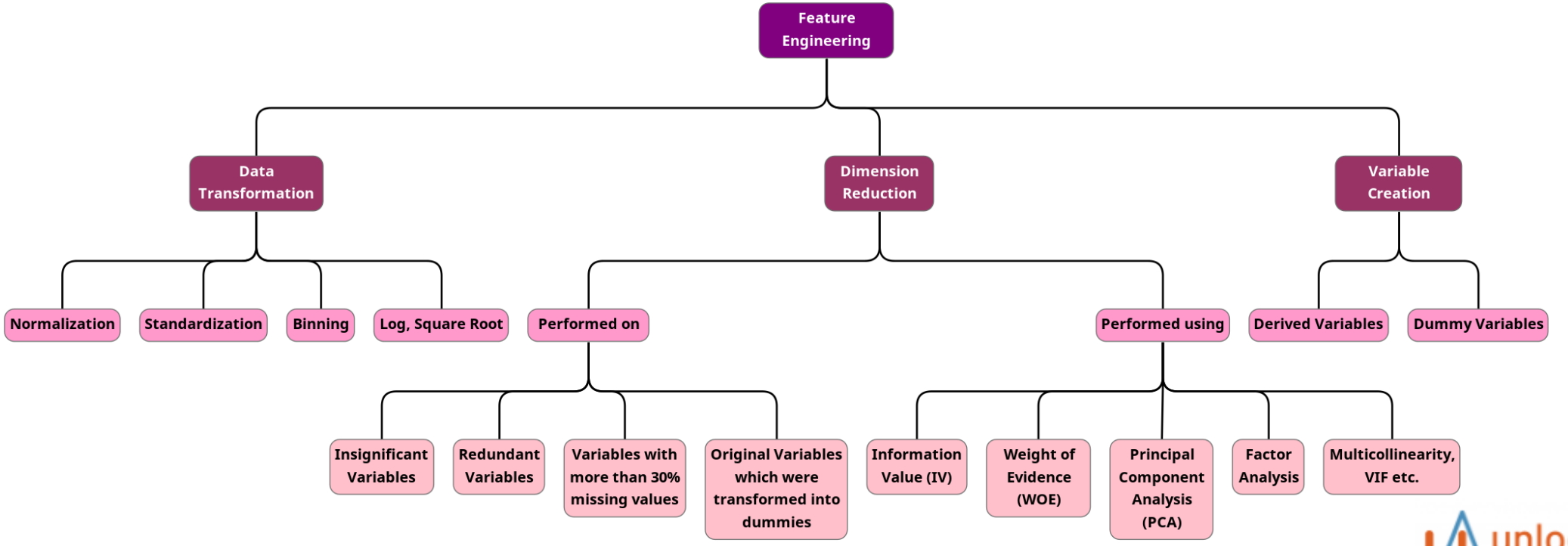

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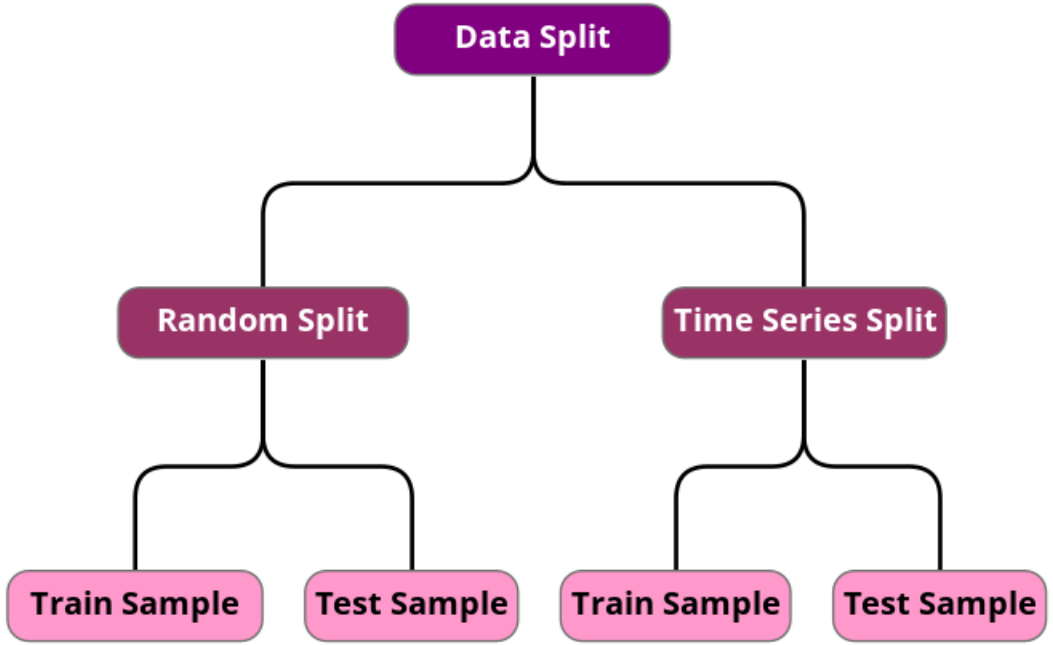


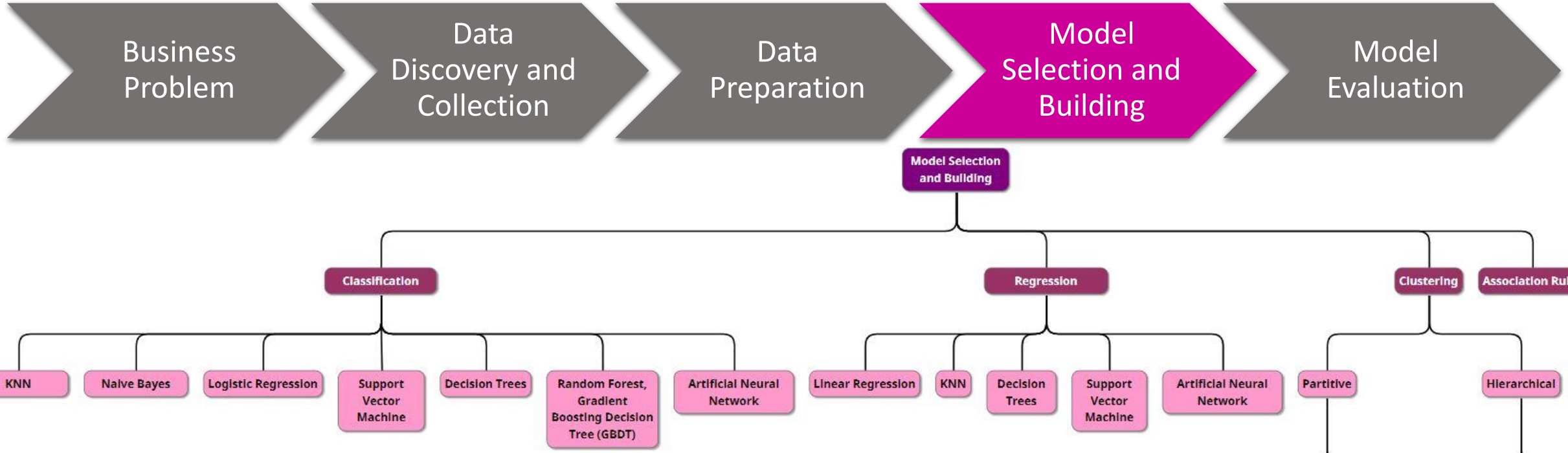
Anatomy of Statistical Model

A step-by-step approach to solve a Business Problem

- Regression
- Classification
- Clustering
- Association Rule Mining, etc.

Anatomy of Statistical Model

A step-by-step approach to solve a Business Problem



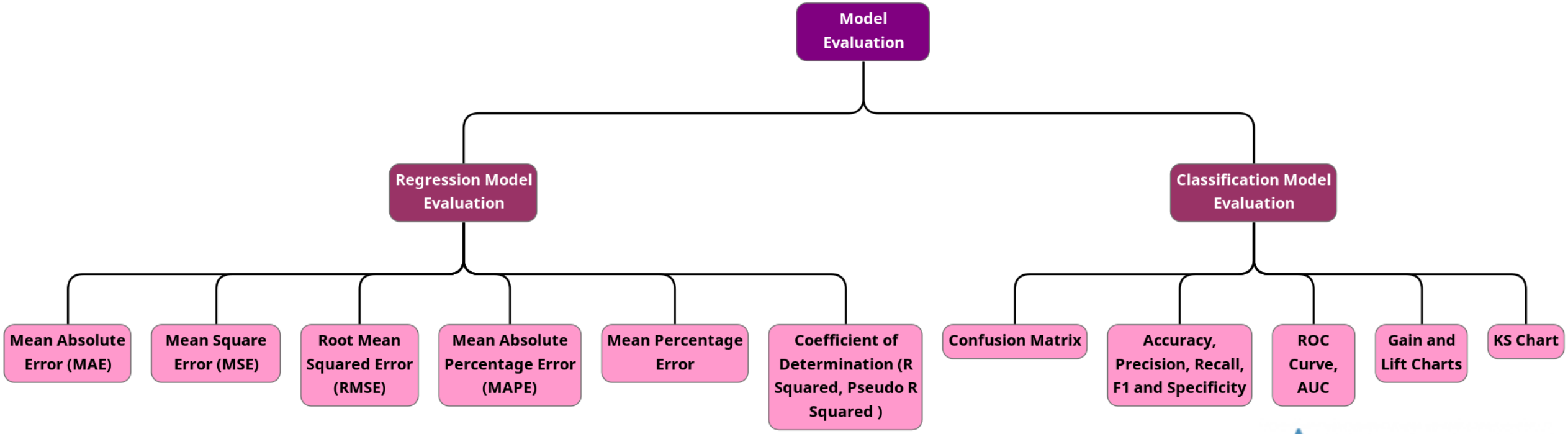
Anatomy of Statistical Model

A step-by-step approach to solve a Business Problem

- Score And Predict using Test Sample
- Check the Robustness and Stability of the Model
- Check Model Performance, Accuracy, ROC, AUC, KS, etc.

Anatomy of Statistical Model

A step-by-step approach to solve a Business Problem



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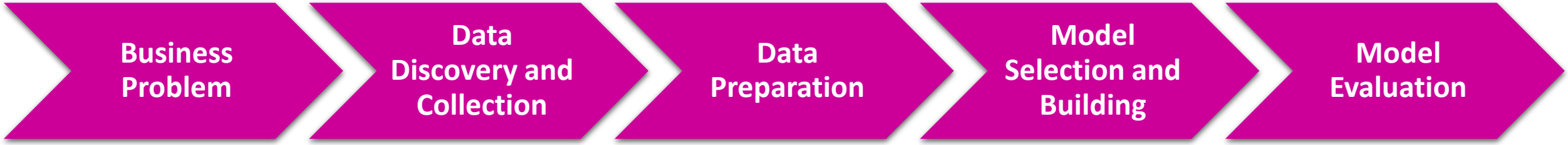

- Understand Project Objectives
- Define the Problem
- Investigate Question and gather Requirements
- Convert into a Statistical Problem

- Understand Data architecture
- Data List Preparation and Identification of Data Sources
- Collect Initial Data
- Define Variables and Create Data Dictionary
- Validate for Correctness

- Univariate Analysis
- Data Cleaning
  - Outlier Treatment
  - Missing Value Treatment
- Feature Engineering
  - Variable Creation
  - Data Transformation
  - Dimension Reduction
- Bivariate Analysis and Hypothesis Testing
- Data Split
  - Training Set
  - Testing Set

- Regression
- Classification
- Clustering
- Association Rule Mining, etc.

- Score And Predict using Test Sample
- Check the Robustness and Stability of the Model
- Check Model Performance, Accuracy, ROC, AUC, KS, etc.

Business Impact : Return on Investment (ROI)

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