Goals and Activities in the Machine Learning Process

After this video you will be able to...

- Explain the goals of each step in the machine learning process

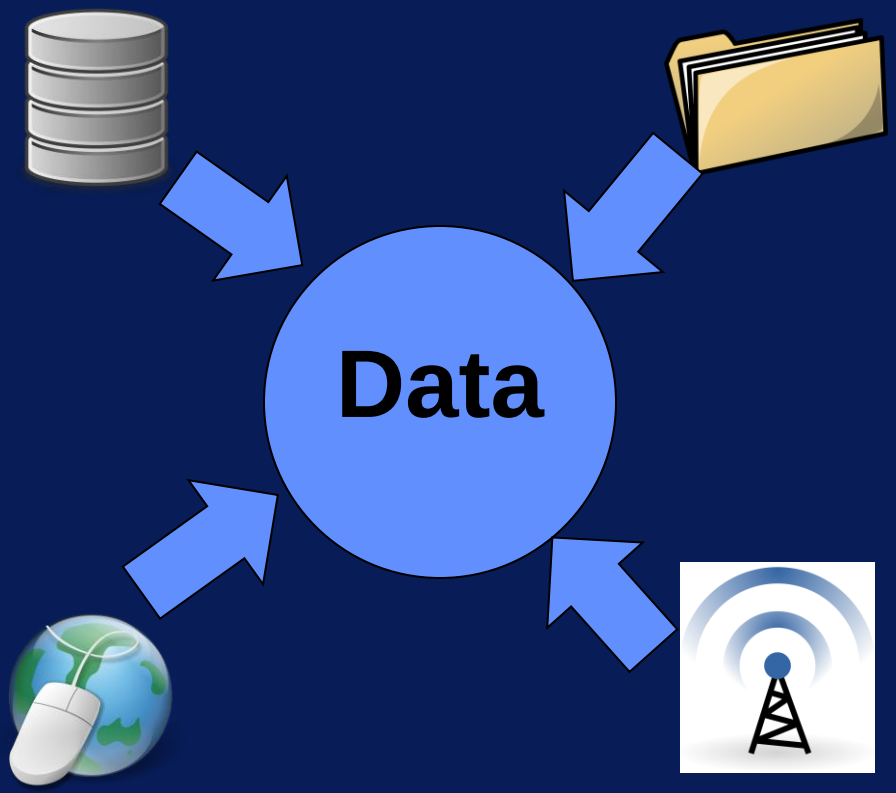
- List key activities in each step in the process

ACQUIRE
PREPARE
ANALYZE
REPORT
ACT

ACQUIRE PREPARE ANALYZE REPORT ACT

Goal: Identify and obtain all data related to problem

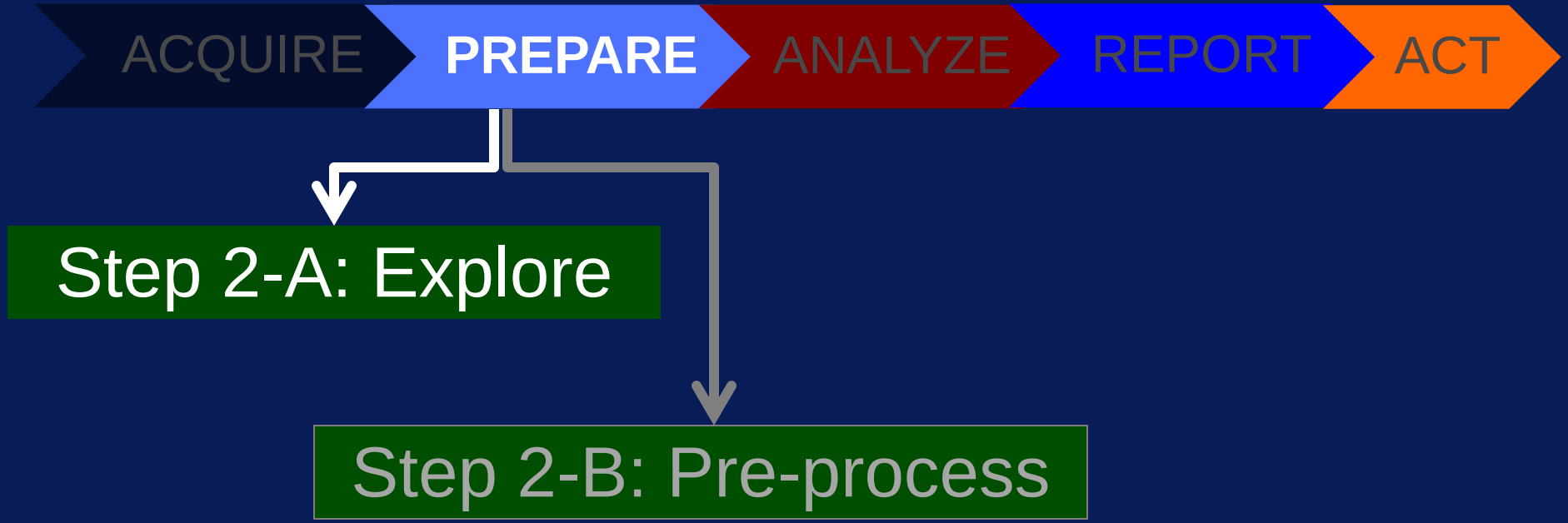
Acquire Data



Identify data sources

Collect data

Integrate data


ACQUIRE
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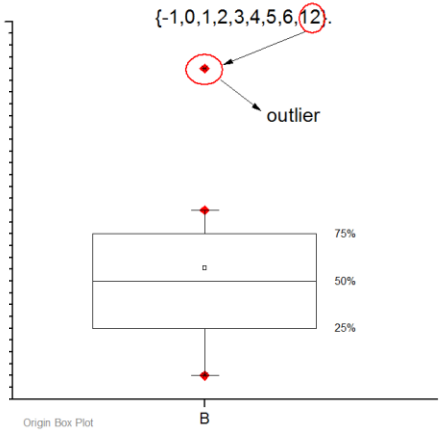
ACT
Step 2-A: Explore
Step 2-B: Pre-process

Why Explore?

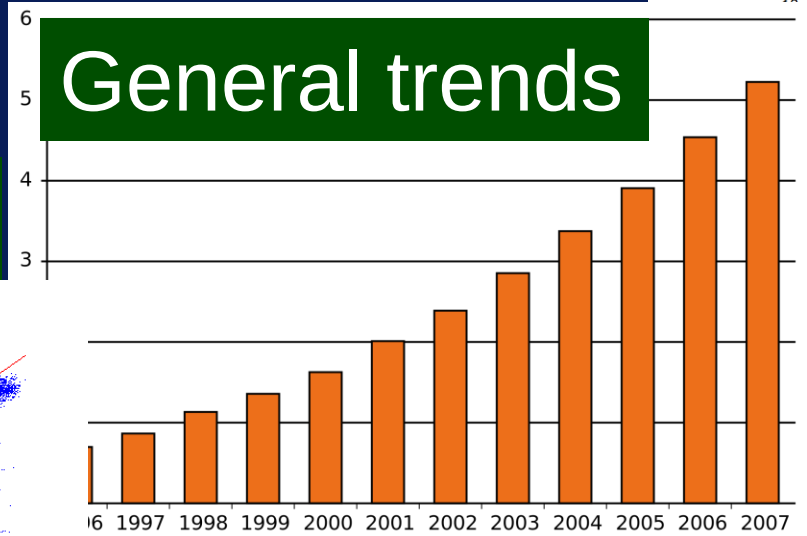
Goal: Understand your data

Why Explore?

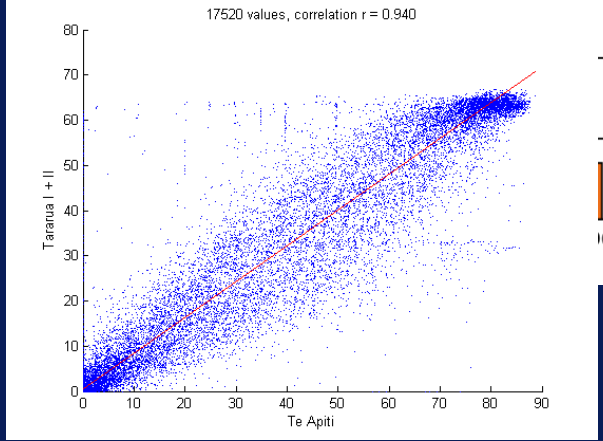
Outliers



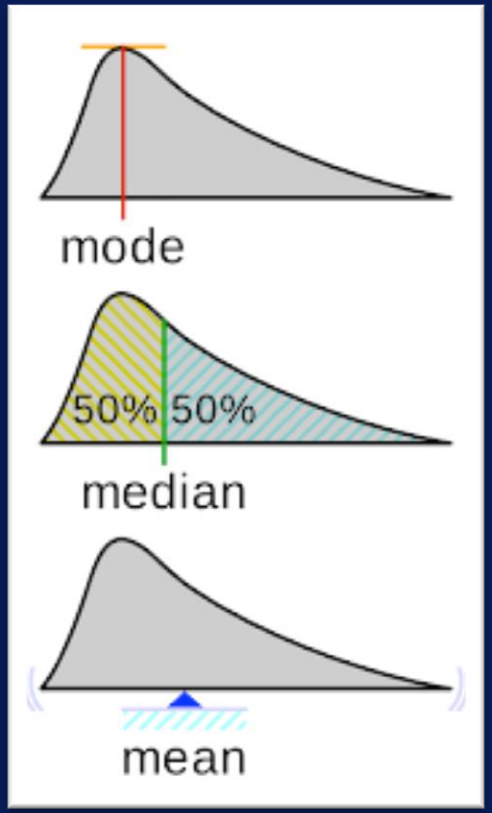
General trends

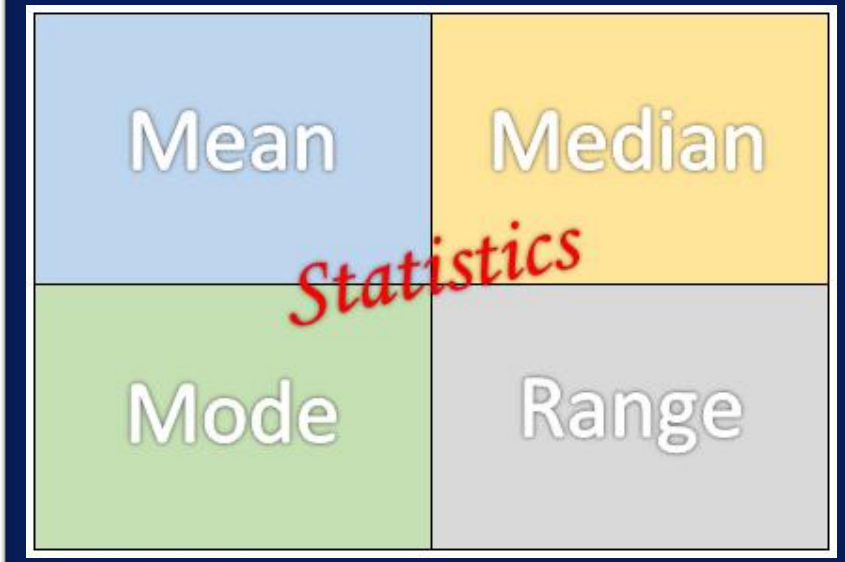


Correlations



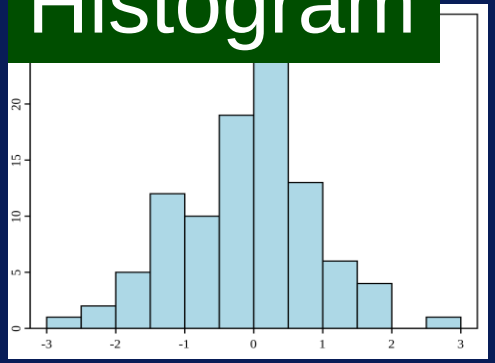
Describe Your Data



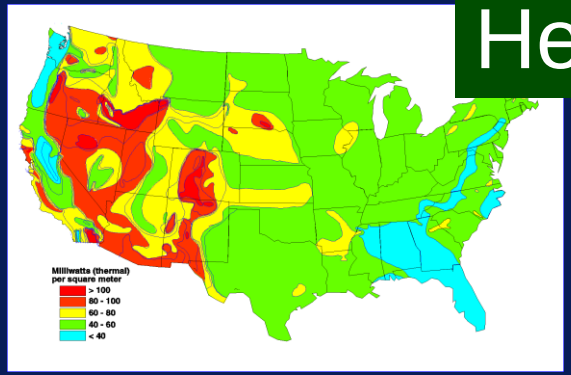


Visualize Your Data

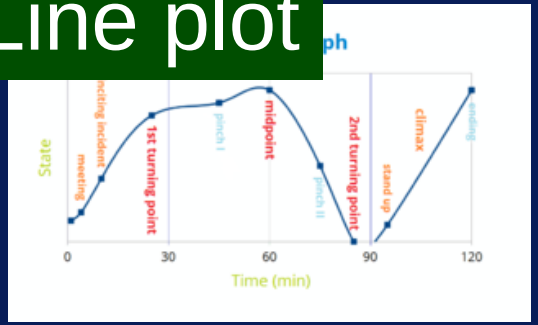
Histogram



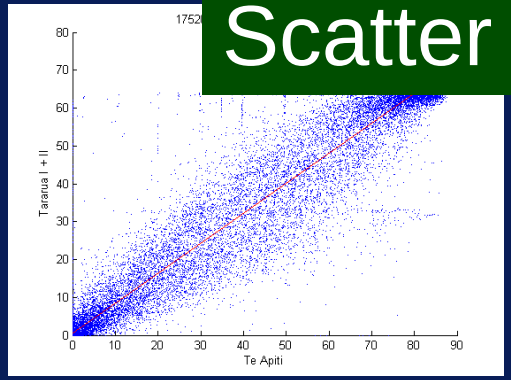
Heat map

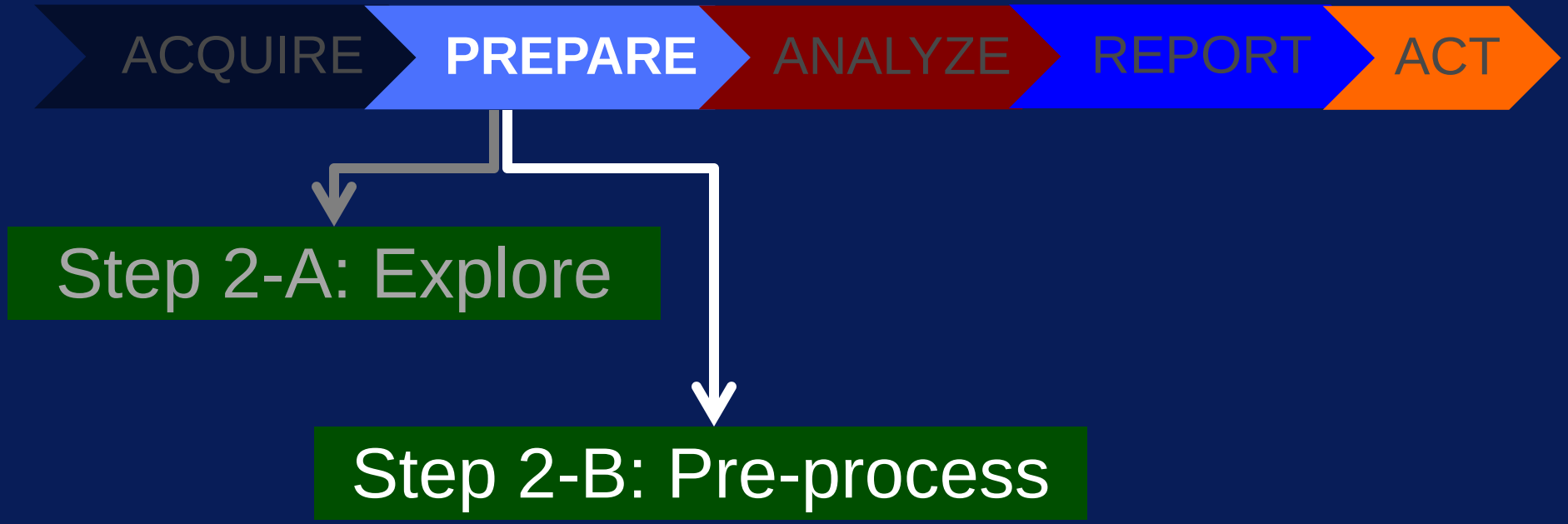


Line plot



Scatter plot




ACQUIRE
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Step 2-A: Explore
Step 2-B: Pre-process

Step 2-A: Explore

Goal: Create data for analysis

Step 2-B: Pre-process

Clean

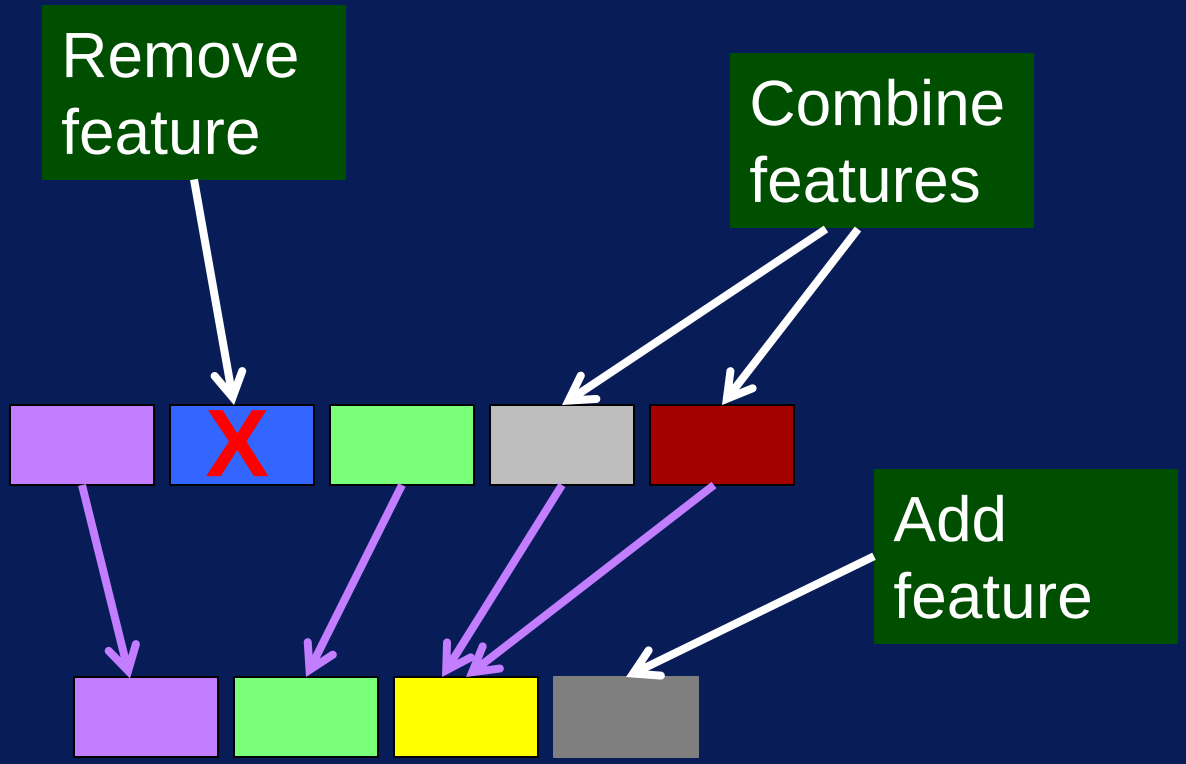
Select

Transform

Data Cleaning

- Missing values
- Duplicate data
- Inconsistent data
- Noise
- Outliers

Feature Selection



Feature Transformation

Weight

Scaled Values

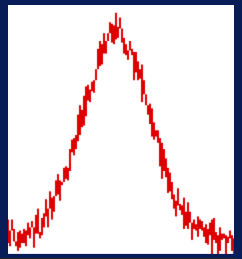
Height

Scaling

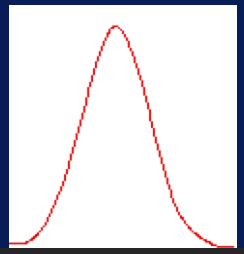
3D

2D

Dimensionality Reduction



Original



Filtered

Filtering

Goals:

- Build model
- Evaluate results

Analyze

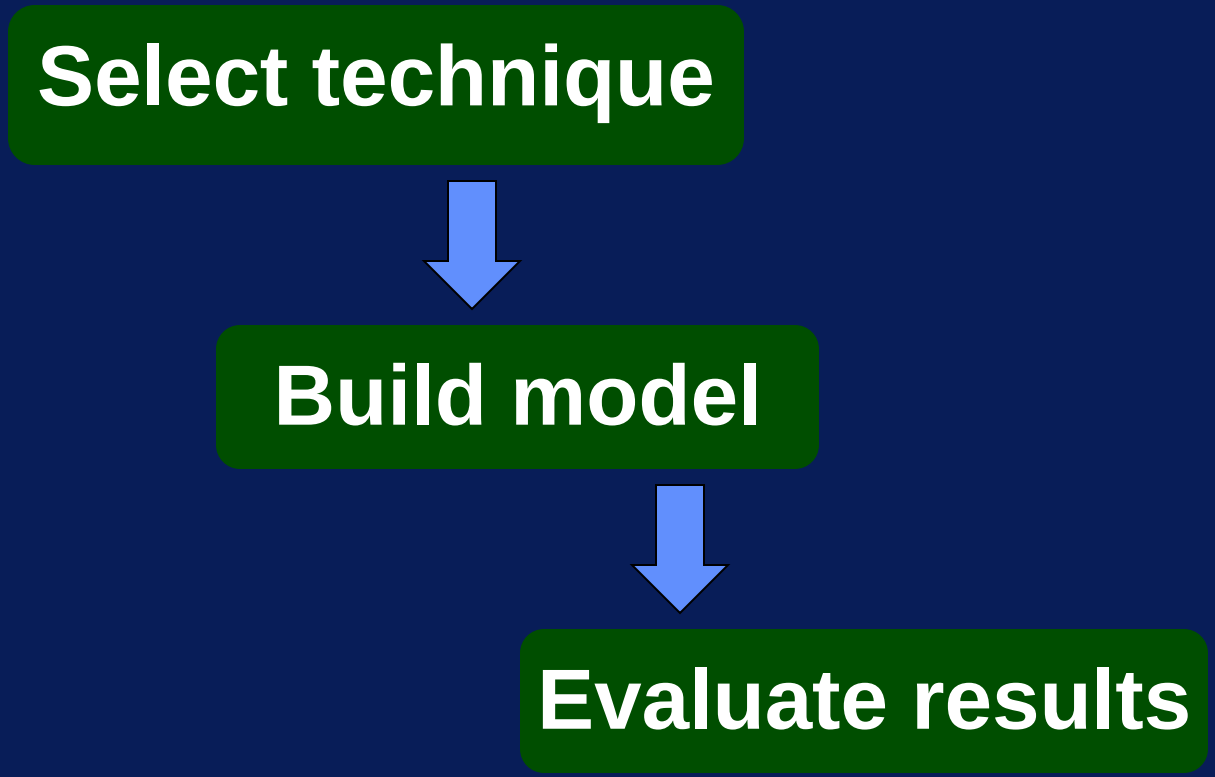
Select technique

Build model

Evaluate

Classification
Regression
Cluster Analysis
Association Analysis

Analyze

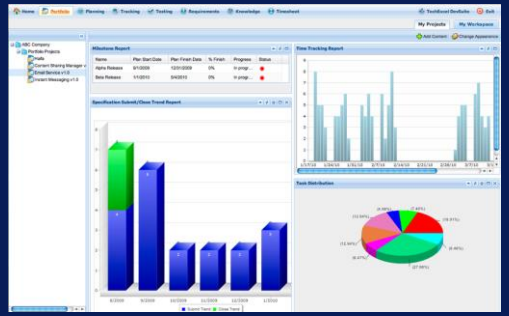


Goal: Communicate results and recommend actions

Present

Report

with



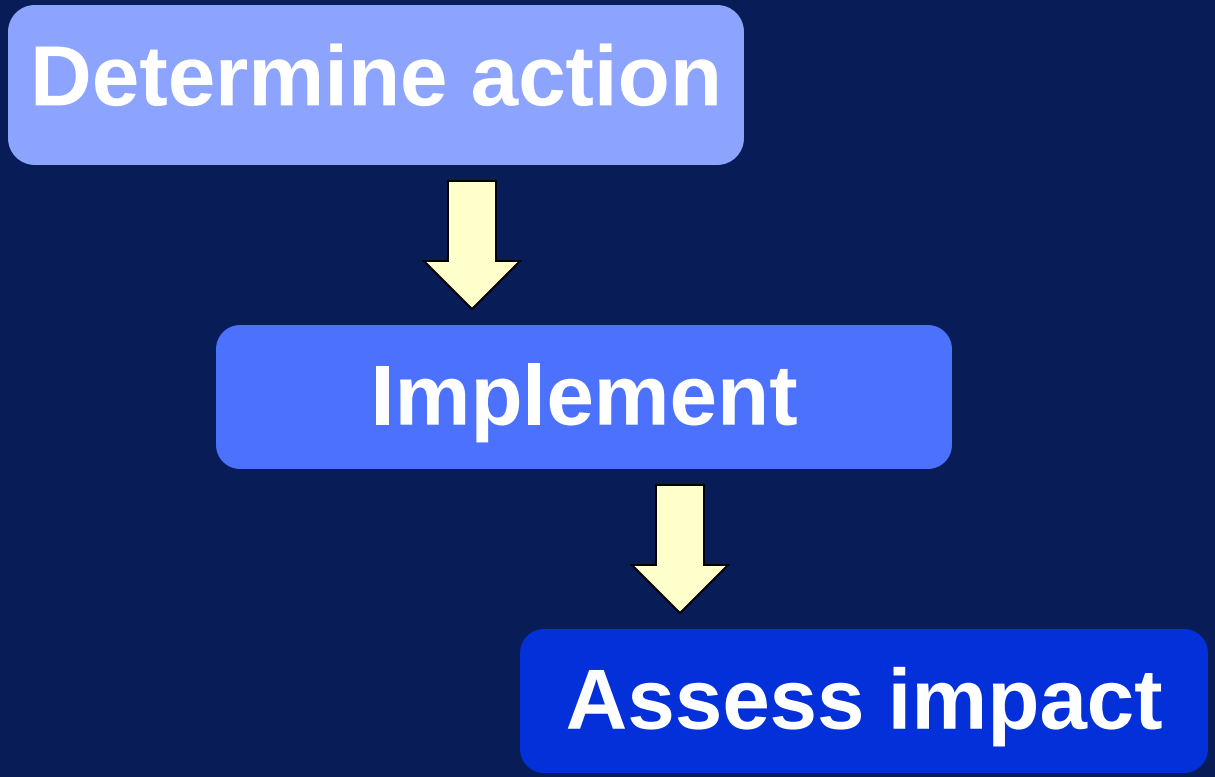
using

tableau

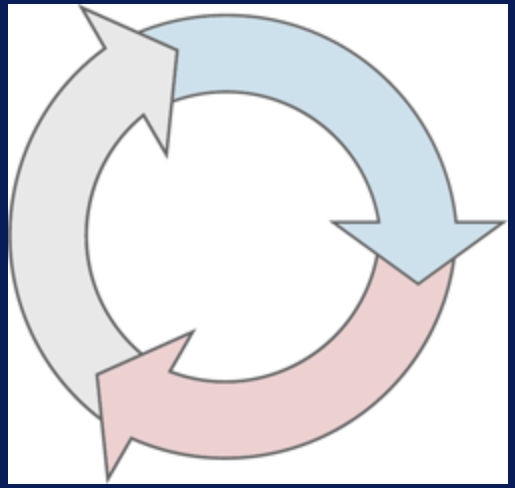
Google Developers CHARTS

Goal: Determine actions based on insights

Act



ACQUIRE PREPARE ANALYZE REPORT ACT



Iterative process