

# DATA PRE- PROCESSING TECHNIQUES

DATA



PREDICTION

DATA



PREDICTION

PRE-  
PROCESSING



# PRE-PROCESSING TECHNIQUES

- DATA CLEANING
- DATA TRANSFORMATION
- DATA REDUCTION
- DATA DISCRETIZATION
- DATA INTEGRATION
- DATA BALANCING
- DATE AND TIME HANDLING

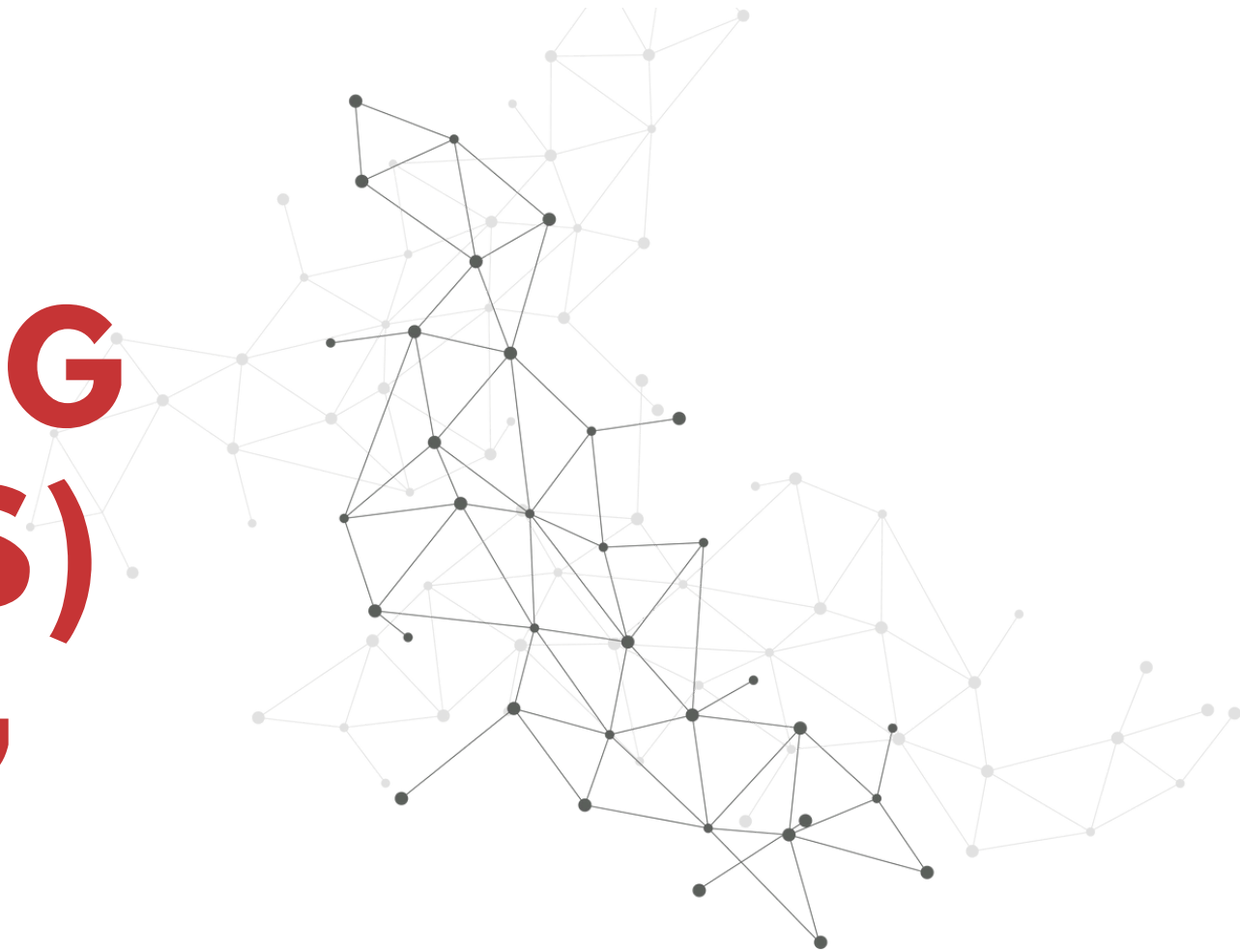
# DATA CLEANING

- **MISSING VALUES**
- **OUTLIERS**
- **DUPLICATES**
- **WRONG FORMAT**



# DATA TRANSFORMATION

- **NORMALIZATION**
- **CATEGORICAL ENCODING  
(ONEHOT , GETDUMMIES)**
- **FEATURE ENGINEERING**



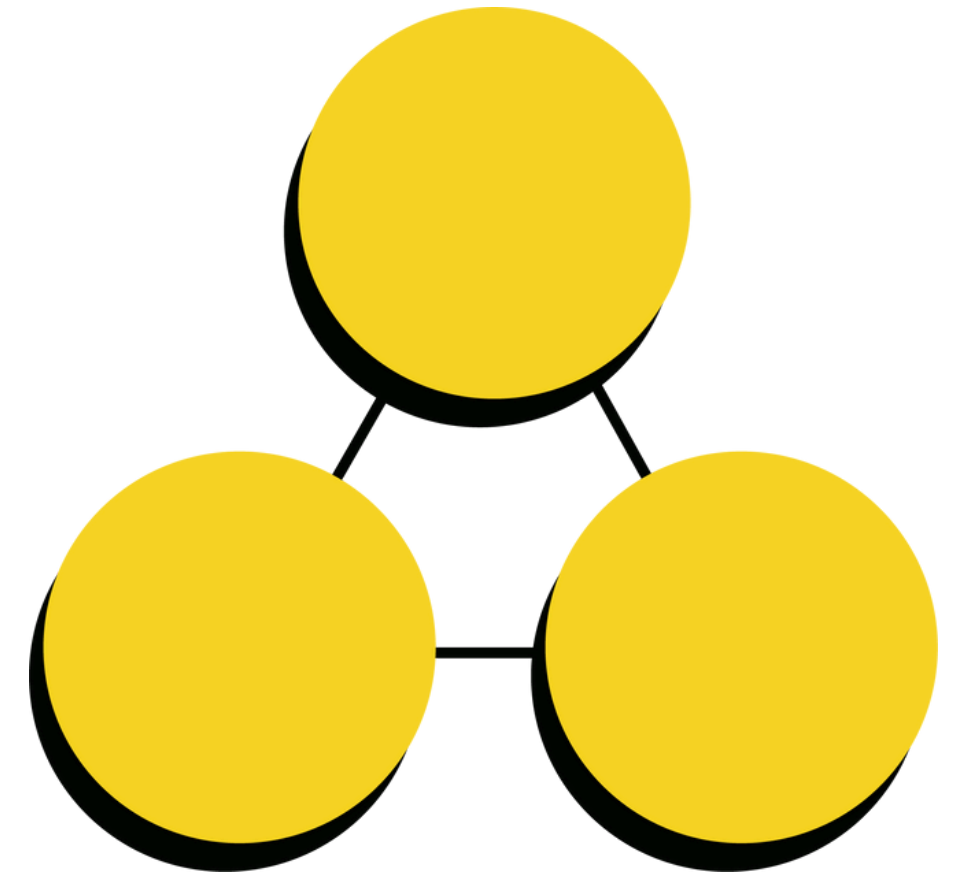
# DATA REDUCTION

- **DIMENSIONALITY REDUCTION(PCA)**
- **FEATURE SELECTION**



# DATA DISCRETEIZATION

- **BINNING**





# DATA BALANCING

- **OVERSAMPLING**
- **UNDERSAMPLING**

# DATA INTEGRATION

- **MERGING DATA**

# DATE AND TIME HANDLING

- **EXTRACTING FEATURES**