Data Mining and Applications

Project : %20 → Implementation of algorithms without using library and/or framework.

Resources :

- Knime : Low Code Platform
- Dr. Saed Sayad : Mind Map about Data Science
- Orange : Low Code Platform
- Kaggle : Dataset and Competition Platform
- Colab : Google's Cloud Solution for Jupyter

Data Mining Methods

- Supervised
  - Classification
  - Regression
- Unsupervised
  - Association Analyses
    - ↳ Recommendation System
    - → Similarity Analyses (Collaborative Filters)
  - Clustering

Data Warehouse : Designed for decision support applications and technical infrastructure for decision systems.

Data warehouses are:

I) To The Point → Focused to the goals

II) Integrated → Integration about consensus about coding, physical...

III) Have Time Dimension → Data of inside warehouse have a time T.

IV) Read-Only → Data can't be remove or update.

Data Mining : Process of creating a meaningful results from corperation's data named as "Data Mining". This process seperate meaningful info from big data cumulatives.

Scope of Applications

I) Marketing

- Determining customer's purchasing habbits
- Revealing the connections between customer's demographic characteristic
- Retearning exist, gaining new customers
- Market basket analysis
- Customer relationship management
- Customer evaluation
- Sales forecast

→ "REVIEW PROCESS → CLUSTERING
EVALUATION ⇒ REGRESSION"

II) Banking

- Revealing hidden relationships between indicators
- Detection of Fraud
- Determination of Customer Groups
- Evaluation of credit requests

III) E-Commerce

- Resolving attacks
- Management e-CRM
- Visit analysis

Data Mining Processes

I) Meet with Data : Type (Quantitative or qualitative), Quality (Missing, Inconsistent, Duplicate), Analyse Data (in Terms of Its Relationship)

II) Data Cleaning : Elimination of false informations and missing datas. (Avg replacement, removing, regression...)

III) Data Integration

IV) Data Reduction

V) Data Conversion

VI) Applying Mining Algorithm

VII) Presentation of Results