

Course Code : BMM 723

Course Name : Artificial Neural Network for Biomedical Engineering

Name : TAUFIQ ABDULLAH

Student Id : 2028142037

Department : Biomedical Engineering

Program : Masters

Homework : 2

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Submitted To : DR. HAKAN YILMAZ

Department of Medical Engineering, Karabuk University, Turkey

1. **A dataset for cardio vascular disease**

## Introduction:

## A dataset of cardio vascular disease was analyzed for keras and MLP where id, age, gender, cholesterol, glucose, ap hi, ap low, smoke, alcohol were used to be features. The model was analyzed using jupyter python language.

### Techniques Used

1. Data Cleaning
2. Data Visualization
3. Machine Learning Modeling

### Algortihms Used

1. Keras
2. MLP

### Model Evaluation Methods Used

1. Accuracy Score
2. F1 score

### Packages and Tools Required:

1. Pandas
2. Matplotlib
3. Seaborn
4. Scikit Learn
5. Jupyter Notebook

### Package Installation

1. pip install numpy
2. pip install pandas
3. pip install seaborn
4. pip install scikit-learn
5. pip install matplotlib

**Result:**

In the system, The following output

Accuracy : 0.7383571428571428

Precision : 0.7409640648250261

f1Score : 0.7377095732106843

1. **Regression Model** :

A dataset of traffic vehicles in Istanbul was analysed for ANN keras and MLP algorithm. The model was analyzed using jupyter python language.

### Algortihms Used

1. Keras
2. MLP with Keras framework
3. GRNN network

### Packages and Tools Required:

1. Pandas
2. Matplotlib
3. Seaborn
4. Scikit Learn
5. Jupyter Notebook

### Package Installation

1. pip install numpy
2. pip install pandas
3. pip install seaborn
4. pip install scikit-learn
5. pip install matplotlib