



**Amirkabir University of Technology**

**Neural Networks**

**HW2**



Q1) Download the dataset and perform the following preprocessing steps.

- A) Fill missing values with an appropriate method.
- B) Do the normalization
- C) Convert non-numeric features to numeric features (such as one-hot encoding)
- D) Detect and remove outliers
- E) Split the data to train, validation, test randomly

Q2) Is this Dataset linearly separable?

Q3) Design an impactful neural network. Specify the layer and unit numbers based on task details and data characteristics.

Q4) Test multiple activation function in this task and compare the results.

Q5-first) Your sentence is clear and concise. It effectively conveys the task of comparing the influence of changing batch size during the training process on the results.

Q5-second) Make an overfit in your training process and show it.

Q6) make your best model