# **CENG 3522 Applied Machine Learning**

# **Final Project Description**

**Project Group:**

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**Chosen Alternative:**

**Alternative 2: Data to problem**

**•Find a dataset :**

[Gemstone dataset](https://www.kaggle.com/datasets/colearninglounge/gemstone-price-prediction)

**•Define a problem :**

Whether prediction of price based on given attributes that contain information (such as size, color and clarity) accurately is possible or not. Meanwhile, deciding on the best machine learning algorithm for this purpose on this dataset.

**•Try at least one additional ML algorithm applicable to the problem :**

Various machine learning algorithms that are developed for regression (Linear Regression, k-Nearest Neighbors, Decision Tree, Random Forest, Support Vector Machine, Lasso Regression) will be implemented and compared.

**Project Description:**

This project is based on implementing and comparing various machine learning algorithms that will be used for predicting a numerical feature,“price”, in a [dataset](https://www.kaggle.com/datasets/colearninglounge/gemstone-price-prediction) downloaded from Kaggle. In this process, research on features of the data, exploratory data analysis (EDA), visualization, imputation and regression will be used and the data will be understood as best as possible. If the results are insufficient, discretization and classification could be tried as well.