**House Prices: Advanced Regression Techniques**

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**Problem Statement**

Finding a dream house for ourselves is an uphill struggle. A person looking for a house will look for a few features needed for him in that house but determining the exact price of the house for an individual would be a difficult task to do.

The value of the house is not merely determined by the number of bedrooms, square footage or proximity to a landmark but involves a lot more factors than that. Considering 79 explanatory variables describing (almost) every aspect of residential homes in Ames, Iowa, this project will help an individual to predict the final price of their dream home. This helps to maximize the value users can gain while keeping to a budget. This finding can also be used by a property agent or property brokerage firm to improve their sales and meet the consumer need to get them the best house.

The dataset used is obtained from Kaggle.

**Plan of Action**

***Feature Engineering***

* Data processing and data cleaning for missing attribute values
* Representing missing attribute value using heat map
* Cleaning outliers

***Machine Learning Techniques***

* Extreme Gradient Boosting
* Neural Network using Keras

***Success Metrics***

* Classification Accuracy
* Mean Squared Error

**Teamwork Classification**

**Shweta Mestry**

* Removing outliers
* Implementation of problem using Neural Network
* Implementation of problem using Xtreme Gradient Boosting
* Mean squared error

**Siddhesh Kolhapure**

* Data classification and Data cleaning
* Implementation of problem using Neural Network
* Implementation of problem using Xtreme Gradient Boosting
* Mean squared error

**Aditya Sawant**

* Representing missing attributes using heatmap
* Implementation of problem using Neural Network
* Implementation of problem using Xtreme Gradient Boosting
* Classification Accuracy

**References**

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[4] Sorin Vlad. On the Prediction Methods Using Neural Networks