**Pattern 6 Research Proposal**

**Team Member:**

**Topic**

Explore current used car market in Belarus and develop pricing model to check the phase of the recovering process the market is at.

**SMART**

**Specific**: Use used car data of 29 variables to build a linear regression model on car prices. Then use the model to compare predicted prices with real world data and check the difference. 5-7% indicates market is approaching final phase of recovery. 7%-15% suggests the recovery is in progress and any more could mean the market still has not recovered yet.

**Measurable**: There at 38532 data points to develop model on. Total variables that could be tested are 29. Out of the 5 numerical variables, only two of the numerical variables may have correlations on paper. For model construction, methods like r-square, MAE, MSE and RMSE will be used.

**Achievable**: Data were gathered at December 2019, which makes final model worth more justification. In addition, there are not too many numerical variables to regress on to make the modeling process highly complicated.

**Relevant**: Uncertainty of pandemic lasting period makes used car market highly unanalyzable. Comparing predicted prices with current data could help grasp recovering phase to make educated guess.

**Time oriented:** The topic proposal will be completed by October 25th. The analysis and presentation preparation will finish by November , 2nd with the final summary paper drafted by November 9.

**Source**

Used cars catalog-Belarus : (<https://www.kaggle.com/lepchenkov/usedcarscatalog?select=cars.csv>).

**The number of observations**: 38,532.

**GitHub**

<https://github.com/laihanel/PatternSix>