**Pattern 6 Research Proposal**

**Team Member:**

**Topic**

Explore the current used car market in Belarus and develop a pricing model to check the phase of the recovery process within the market.

**SMART**

**Specific**: Use the “used car data”, which has 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. While 7%-15% suggests the recovery is in progress, more could mean the market still hasn’t recovered yet.

**Measurable**: There are 38,532 data points to develop a model on. Total variables that could be tested are 29. Out of the 5 numerical variables, only two of the numerical variables seem to have correlations on paper. For model construction, methods like r-square, MAE, MSE and RMSE will be used.

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

**Relevant**: Due to the uncertainty caused by the long lasting pandemic, it is very hard to analyze the used car market. Comparing predicted prices with current market data could help the buyers and sellers understand the recovery phase of the market better. This will enable them to make better decisions when they are selling or buying a used car.

**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>