MTPL INSURANCE PRICING MODEL

Introduction

One of the Insurance companies in Armenia seeks to come up with a better pricing model for Motor Third Party Liability (MTPL) Insurance product, because the current pricing principle leaves the company without any profit.

The premium paid by the customer consists of the net premium, which is the expected claim amount and additional terms to cover expenses etc. The senior management of the company believes that the data they have can be used to estimate the net premium given.

The business goals of the company is to attract new customers due to competitive prices, receive sufficient income to be able to meet its obligations in the future and to maximize the profit of the company.

Data mining objective is to predict how much will be the future loss of the policy, given the information about the policyholder. The type of the problem is prediction (regression).

Results

Different data mining methods were used to come up with a model that would produce the minimum RMSE and satisfy the fairness criterion. Random forest regressor method with 102 number of trees was chosen as a final model. Feature importance analysis was also performed to verify the need of collecting such information from the customers.

Nshan Potikyan & Karen Danielyan