

ABSTRACT

Topic: 'Models of crediting individuals by means of neural networks'.

Thesis explanatory note: 108 p., 45 fig., 16 tabl., 3 append., 20 sources.

CREDIT, CREDITWORTHINESS, CREDIT SCORING, NEURAL NETWORK, RANDOM FOREST, K NEAREST NEIGHBOURS METHOD, ROC-CURVE, BINARY CLASSIFIER

Actuality: credit scoring is an optimization tool of the decision-making process for providing credit funds to individuals within the framework of consumer loans, so this study, that is, the construction of adequate models of credit scoring models, is necessary for financial institutions-creditors.

The purpose of the work is the research in the field of crediting, namely, the implementation of the credit scoring process by assessing credit risk for individuals.

The subject of the study is a set of historical data taken from the Kaggle contest "Give Me Some Credit" regarding the credits provided by the financial institution to individuals.

Methods of the research: neural network, random forest, k nearest neighbours method. The software is implemented using a combination of programming languages R and Python. After constructing the models, a comparative analysis of the results of the best of the models of each type by the AUC metric was conducted.

Obtained results: credit risk assessment models for individuals have been developed and decision thresholds have been selected for the transformation of the best models into complete binary classifiers that can be used as part of a decision support system or as a decision support system.