

APPLICATION OF KOHONEN NETWORKS IN THE BANKING SPHERE

Any organization [1] needs to use computer-based automation systems that allow efficient implementation of management decisions [2]. This work designs and implements a system for calculating the creditworthiness of the bank's client [3]. The task is to form a system of assessing the capacity to grant credit to the client (physical or legal person) [4]. Evaluating a potential client, banks try to determine the level of risk they can be subjected to when granting credit to the client. Insanely, the bank must be sure that the borrower will repay the loan and interest on time.

As you know, the whole procedure of assessing the payability of the client is called scoring [3]. In the process of scoring the bank gives a certain number of points to clients. It is obvious that the more points a client gets, the more chances he has to get a loan. To determine the scoring score, a training session is suggested, in the course of which the client data is submitted (i.e., a sample of the whole sample).

While studying each element of the selection the system must distinguish them, i.e. assign them to a certain class. After the training is completed, you can begin the recognition process, during which a new object (one or several) will be presented and the pattern will be recognized to which class it belongs. The teacher's recognition is also called recognition or classification. Both explicit and implicit clustering can be used to fulfill this task. But in this case, it is necessary to determine the number of clusters, which may not be a significant value. The use of imprecise clustering is possible when solving the given task, but the specialist needs to obtain clear output data for making decisions.

To get the scoring assessment it is suggested to use a neural measure, in particular the Kohonen measure. The author does not consider it necessary to comment on the advantages and disadvantages of this measure because they are well known [4, 5]. The use of neural networks for various application tasks does not require any special explanations. It is suggested to consider two interconnected subsystems for the realization of this task.

The first "Data Registration Subsystem" is designed to form a database that stores the necessary information about the client, which is given to the settlement subsystems. The other "clustering subsystem" uses the information provided by the data registration subsystem. This is where the actual process of clustering is carried out based on the received information about the client. This module uses the Kohonen neural measure [4, 5]. The output of this subsystem will be the result of its work. The input data for this subsystem are: the number of classes (there are nine of them); distances between objects and input parameters (data about the client). The output data is the assignment of the client to one of the possible clusters. A teaching sample is used for non-mechanical training, and then the measure is updated as new

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clusters are added to the database. For clear clustering, two measures of distances are considered: Euclid metric and cut metric.

Developed a web-oriented addendum using Django framework, the open-platform cross-platform database management system SQLite, and the Python programming language.

Conclusions. The system created is of applied character and can be used as an additional decision-making tool. The addendum is intended for bank employees in the sphere of crediting.

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