

Boolean function, namely: as a problem on the feasibility of the CNF of a finite predicate, which in the language of matrices is formulated:

Let  $K$  be a Boolean matrix partitioned along columns. It is required to find out whether there is at least one covering for it, that is, whether there is a subset of columns taken exactly one from each section, which together would contain at least one unit in each row of the matrix. It was experimentally established that for the classical feasibility problem there exists a so-called critical interval of parameter values, in which really difficult individual problems lie. Therefore, it makes sense to identify the patterns between the sizes of the original matrix and its feasibility. In this connection, the mathematical expectations of some random variables were calculated, one of which, for example, is the average number of  $E$  matrices of a given size that do not have coverage.

Based on the finite predicate method, a PS can be created that will help achieve the goal of identifying the most dangerous (unfavorable) zones for The software package for assessing the anthropogenic load the reasons why the region is unfavorable, helps the state authorities draw conclusions and forecasts based on the already available data and preventive notification of a possible danger in the region, develops recommendations for activities for people living in unfavorable zones, generates statistical reports, has a clear user interface - this method is good visualized, and this model is universal and makes it possible to choose the comparison and forecast for the set of indicators that are necessary for the volume or a different expert. The finite predicate method allows to scale well, regardless of the amount of data, and this system can be used for integration into existing systems for collecting statistics on the state of the environment.

## **FINITE PREDICATES FOR COMPUTER MODELING THE TASKS OF MONITORING THE STATE OF THE ENVIRONMENT AND ASSESSING THE ANTHROPOGENIC LOAD**

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The tasks of monitoring the state of the environment and assessing the anthropogenic load are very relevant at present due to the increase in industrial, transport, agricultural, radiation and recreational pollution. There is a bunch of method and methods for calculating anthropogenic load from simple mathematical formulas to huge software systems. We offer to use the method of finite predicates for computer modeling of this subject domain. The main advantage of this method is fast computing and high accuracy on large datasets. Using the

finite predicate method for calculation of base metrics together with machine learning (ML) technics can be achieved a major value such as predicting of dangerous situations, analyzing data to get new knowledge about the specific regions etc.

Neural networks are tested a sample of the broad family of machine learning techniques for data views that are most suitable to solve a problem.

Real submission datasets facilitates the solution of specific tasks — evaluation of the emission of pollutants, the limiting concentration of a substance permissible concentration. Neural networks allow you to automate the process of selecting and configuring attributes, using efficient algorithms and hierarchical retrieval features. For our task-predict the future on environmental grounds, recurrent network was chosen because it is most suitable for predictions over time.

## **SOFTWARE TOOL "FILING CABINETS"**

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Due to the comprehensive development of information technologies in the banking sector, it is not advisable to use large filing cabinets, manpower and special premises to store large volumes data. It is more expedient to solve this problem with the help of computer computers; Create a program designed to simplify and automate operations related to the registration, systematization, search and processing of banking data.

Automated systems used in the process of accounting data of banking operations provide transfer and fast processing of large amounts of data. At the same time, significant amounts of information are available online for analysis, forecasting and control. This imposes stringent performance requirements on the operating system, database management system, and data communications. Therefore, system tools must be able to maintain access to large (and ever-increasing) data volumes without sacrificing performance.

Processing of information in the bank is carried out within the automated banking system of information processing. Document circulation in the bank can be conditionally divided into two main streams: administrative and operational.

The administrative document circulation does not overlap with customer service, but is aimed at servicing the activities of the Bank itself, its internal reporting and financial transactions. The operational flow is aimed at customer service. Here the financial documents of clients, their applications, contracts and other are processed.

Development of the Software "card cabinets" is designed to automate the following processes:

1) Placement in K2 of documents K2 in foreign currency, different from the currency of the account;