ABSTRACT

Thesis: 81 p., 16 fig., 8 tabl., 2 append. 12 sources.

ARTIFICIAL IMMUNE SYSTEMS, REAL-VALUED ALGORITHM OF NEGATIVE SELECTION, ANOMALY DETECTION, NOVELTY DETECTION, ONE-CLASS CLASSIFICATION

The object of the study is a sample, the records of which are indicators of the network of the Intermediate records are both normal and heterogeneous invasions and attacks

The subject of the research is the methods of detecting abnormalities on unbalanced samples in time series, namely, the real-valued method of negative selection.

The purpose of the work is the recognition of data, namely the use of methods of recognition of self / non-self, realized in a real-valued algorithm of negative selection.

The paper discusses the methods used for the problem of detecting novelty and / or detecting outliers.

The basic theoretical information about artificial immune systems and their computational aspects are considered. Also studied is the method of negative real-valued selection with its modifications. The main disadvantages and advantages of the algorithm are analyzed.

Also, the algorithm is programmed and the comparative analysis with other methods, namely, with support vector machines, is carried out.