

My diploma thesis deals with one of the most widely used model of artificial neural network named self-organizing Kohonen neural network. We can find there a detailed description of several thoroughly analyzed mutually compared models of Kohonen map. We will verify their functionality, robustness and generalisation rates on artificial input data. Their real applicability and properties are tested on real data of traffic accident frequency. We will focus on the detection of significant input data attributes. The possibilities of solving the interesting questions and aspects of road transport are examined by means of Kohonen maps. At the end of the work there is presented a summarized review of the results and there are mentioned possible options of modifications that could improve the properties of these models.