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INTERNET TRAFFIC ANALYSIS BY FFNN, K-NEAREST NEIGHBORS AND DECISION TREE APPROACH[13]

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Abstract: *The paper examines the applicability of Feed-Forward Neural Networks and k-Nearest Neighbors and Decision Tree Machine Learning techniques in recognizing of areas of streaming Internet traffic from enterprise customers. The combined approach enables a process synthesis of different types of classifiers and selection of the most suitable analytical tool for traffic zone identification. An assessment of the Accuracy and Cross-Entropy indicators for different number of hidden neurons at Scaled Conjugate Gradient algorithm were evaluated about the neural classifier. Synthesis of k-NN and Decision tree classification models using resubstitution and cross validation techniques about accuracy and loss indicators was performed. Satisfactory persormance indices have been established in the course of training and testing procedures about ANFIS, k-NN and DT classifiers. The investigations are conducted with MATLAB and STATISTICA software products.*

Keywords: *Traffic Analysis, Neural Network, Accuracy, Cross-Entropy, k-NN, Decision Tree, Resubstitution, Cross-Validation.*

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