

# A Two-Dimensional Data Fusion Model for Intrusion Detection

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## Abstract

When the same data are detected and classified with different classifiers, there will be inconsistencies in the results. This shows that different factors cause the classifiers' detection accuracy not alike. In this study, the proposed methods were verified with KDDCUP' 99 data, and data fusion (DF) using five feature selection methods (Discriminant Analysis, DA; Principal Component Analysis, PCA; Rough Set Theory, RST; Multiple Logistic Regression, MLR and Genetic Analysis, GA.). In the case of data re-determination and upgrading the detection was accurate. In this study, we propose two dimensional DF. Combining different DF methods can increase the IDS detection accuracy. Empirical results using a KDDCUP' 99 dataset had an intrusion detection accuracy of 99.9834%, which made it useful for intrusion detection and data re-determination.

Keyword : Intrusion detection system Data fusion Dempster-Shafer' s Theory Bayesian Theory Support Vector Machine