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# Network Intrusion Detection System Based on Recursive Feature Addition and Bigram Technique

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## **Abstract**

Network and Internet security is a critical universal issue. The increased rate of cyber terrorism has put national security under risk. In addition, Internet attacks have caused severe damages to different sectors (i.e., individuals, economy, enterprises, organizations and governments).

Network Intrusion Detection Systems (NIDS) are one of the solutions against these attacks.

However, NIDS always need to improve their performance in terms of increasing the accuracy and decreasing false alarms. Integrating feature selection with intrusion detection has shown to be a successful approach since feature selection can help in selecting the most informative features from the entire set of features.

Usually, for the stealthy and low profile attacks (*zero – day attacks*), there are few neatly concealed packets distributed over a long period of time to mislead firewalls and NIDS. Besides,

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