

## An Intrusion Detection Systems Based on K-Means, K-Medoids and Support Vector Clustering Using Ensemble

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**Abstract :** Presently, computer networks' security rise in importance and many studies have also been conducted in this field. By the penetration of the internet networks in different fields, many things need to be done to provide a secure industrial and non-industrial network. Fire walls, appropriate Intrusion Detection Systems (IDS), encryption protocols for information sending and receiving, and use of authentication certificated are among things, which should be considered for system security. The aim of the present study is to use the outcome of several algorithms, which cause decline in IDS errors, in the way that improves system security and prevents additional overload to the system. Finally, regarding the obtained result we can also detect the amount and percentage of more sub attacks. By running the proposed system, which is based on the use of multi-algorithmic outcome and comparing that by the proposed single algorithmic methods, we observed a 78.64% result in attack detection that is improved by 3.14% than the proposed algorithms.

**Keywords :** intrusion detection systems, clustering, k-means, k-medoids, SV clustering, ensemble

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