Security System of Autonomous Drones Based on Linear Discrimination Analysis

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Abstract

An intrusion is a set of actions in which system security policies (resources availability, integrity, and confidentiality) are compromised. It is an unauthorized attempt for malignant use and damage. Therefore, there is a big need for designing an intrusion detection system which is a software or a device that analyzing the network data and identifying the malignant behaviors to detect different types of attacks such as a black hole, grey hole, wormhole, and other types. It has a very important impact on network security. In this paper, a machine learning approach-based security system is proposed. Linear Discriminant Analysis (LDA) technique is used for reducing the number of dimensions in the dataset and classifying data. The experimental results showed that the proposed system is very efficient due to the high detection rate that it achieved during the testing stage.

Keyword: Intrusion Detection System (IDS), Linear Discriminant Analysis (LDA), Machine Learning.