

عنوان مقاله:

Mobile Host Intrusion Detection in Surveillance Wireless Sensor Networks with Fusion of Sensor Data

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خلاصه مقاله:

In intrusion detection applications, wireless sensor networks are commonly used. Many research literature papers are aimed at generating and evaluating the information on intruder detection in terms of probability of detection and false alarm rates. In two modalities, the model for acoustic signal and the sensor probability model, and in this research paper, the problems of passive motive intrusion detections have been solved. The aim is to establish a three-stage hierarchy to determine if mobile intruders are present. The sensor nodes at the fundamental level have a k-mean clustering grouping. For binary hypothesis testing, the strengths or probabilities in the cluster head are employed. Cluster leaders send their judgments to the Fusion Centre (FC) after completing a Likelihood Ratio Test (LRT) to ensure invaders are correctly inferred. A numerical analysis of the signals received determines the optimal value for probability computation. The resulting fusion rule maximizes detection likelihood regarding the allowed falsifying rates. The number of absolute sensor nodes determines the exact fusion rule. Compared to earlier fusion rules, simulation results show that the new fusion rule has a better ability to follow mobile invaders and enhanced accuracy and detection speed.

کلمات کلیدی:

False alarm rate, Binary hypothesis, Probability detection, Wireless Sensor Network, Mobile intruder detection

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