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## ICAITI 2022 Submission 148

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### Submission 148

Title	An Intrusion Detection System Using SDAE to Enhance Dimensional Reduction in Machine Learning
Paper:	 (Feb 13, 13:33 GMT)
Author keywords	IDS detection SDAE naive Bayes decision tree SVM auto encoder
Abstract	The intrusion detection system was deactivated. An Intrusion Detection System (IDS) is a hardware or software mechanism that monitors the Internet for malicious attacks. It is capable of scanning an internetwork for potentially dangerous behavior or security threats. IDS is responsible for maintaining network activity in accordance with the Network-Based Intrusion Detection System (NIDS) or Host-Based Intrusion Detection System (HIDS). IDS works by comparing known normal network activity signatures with attack activity signatures. In this research, a dimensional reduction and feature selection mechanism called Stack Denoising Auto Encoder (SDAE) succeeded in increasing the effectiveness of Naive Bayes, KNN, Decision Tree, and SVM. The researchers evaluated the performance using evaluation metrics with a confusion matrix, accuracy, recall, and F1-score. Compared with the results of previous works in the IDS field, our model increased the effectiveness up to more than 2% in NSL-KDD Dataset. Moreover, the use of SDAE also improved traditional machine learning with modern deep learning such as Long Short-Term Memory (LSTM) and Convolutional Neural Network (CNN). In the future, it is possible to integrate SDAE with a deep learning model to enhance the effectiveness of IDS detection.
Submitted	Feb 13, 13:33 GMT

Last update

Feb 13, 13:33 GMT

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**Reviews****Review 1**

<i>Overall evaluation</i>	<p><b>1:</b> (weak accept)</p> <p>1. Please rechecked sentence structure (grammar, and structure). To improve readability, We prefer you to use 10–15 words in every sentence.</p> <p>2. Please follow JOIV format, or your submission will not published in the journal:  <a href="https://docs.google.com/document/d/1FenjxAQhzQsvi6u8Zu6e86SajSCgWeVI/edit?usp=sharing&amp;ouid=100759828706510723557&amp;rtpof=true&amp;sd=true">https://docs.google.com/document/d/1FenjxAQhzQsvi6u8Zu6e86SajSCgWeVI/edit?usp=sharing&amp;ouid=100759828706510723557&amp;rtpof=true&amp;sd=true</a>            Outline: Introduction, Material and Method, Discussion and Result, Conclusion</p> <p>3. Please use references from reputable journal.</p> <p>4. Please make sure all figure are included clearly.</p> <p>5. Abstract must be written in 230–250 words. (See template)</p>
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**Review 2**

<i>Overall evaluation</i>	<p><b>1:</b> (weak accept)</p> <p>please revised the citation method proofread and follow joiv template</p>
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