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Two-Person Intuitionistic Neutrosophic Soft Games with Harris Hawks Optimizer based Tweets Classification on NLP Applications

(2024) *International Journal of Neutrosophic Science*, 24 (1), pp. 314-326. Cited 1 time.

DOI: 10.54216/IJNS.240128

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Abstract

With the widespread usage of social media in our day-to-day lives, it becomes a platform for persons to express and share their feelings, views, thoughts, and opinions. Recognizing emotions has numerous applications extending from dynamic advertisement to behavior analyses. People express their emotional state in a language that is often complemented by figures of speech and ambiguity, making it problematic even for human beings to understand. Categorizing tweets is a dynamic application of NLP, allowing the scrutiny of topical discussions, user opinions, and trends in real-time. Leveraging techniques such as word embeddings, machine learning, and text preprocessing approaches, tweet classification enables tasks like spam detection, sentiment analysis, and topic modeling. This ability assists companies in understanding client feedback and allows policymakers and researchers to track emerging issues and gauge public opinion on social networking media. This study presents a Two-Person Intuitionistic Neutrosophic Soft Games with Harris Hawks Optimizer (TINSG-HHO) based Tweets Classification on NLP Applications. The purpose of the TINSG-HHO technique is to detect the existence of different kinds of emotions or sentiments in the tweets. The TINSG-HHO technique begins with preprocessing of tweets to convert them into useful format. Then, FastText embedding represents words as contextual similarities, dense vectors, and capturing semantic nuances. Leveraging the embedding, the Neutrosophic classification model proficiently handles vagueness and uncertainty intrinsic in deceptive content detection tasks. Moreover, the HHO technique enhances the parameter of the Neutrosophic classifier, improving its generalization capabilities and performance. Based on the hunting strategy of Harris's hawks, HHO discovers the parameter range to search for optimum configurations for the classifier. Experimental evaluations carried out on different datasets illustrate the effectiveness of the DCRM in precisely detecting the deceptive content © 2024, American Scientific Publishing Group (ASPG). All right reserved.

Author Keywords

Harris Hawks Optimizer; Neutrosophic Soft Games; NLP; Sentiment Analysis; Tweets Classification

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Publisher: American Scientific Publishing Group (ASPG)

ISSN: 26926148

Language of Original Document: English

Abbreviated Source Title: Int. J. Neutrosophic. Sci.

2-s2.0-85202933951

Document Type: Article

Publication Stage: Final

Source: Scopus

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