Abstract 91 – Paper ID: 108

Optimizing Semantic-Driven Sentiment Analysis and Text Classification Using Rivoli's Hummingbird Optimization in ERNIE (RHO–ERNIE)

Gopalakrishnan Thirumoorthy[1], Prativa Mishra[1]

[1]Manipal Institute of Technology, Bengaluru

Email: gopalakrishnan.t@manipal.edu

Abstract

This paper presents RHO–ERNIE, a Natural Language Processing model enhanced by Rivoli's Hummingbird Optimization and knowledge representation. RHO–ERNIE is built for complex and developing social media use cases to support semantic-driven sentiment analysis and text classification. The model employs optimization methods inspired by biological mechanisms to enhance structured knowledge and semantic relationships. The goal of the model is to maximize classification accuracy and precision while minimizing error. In summary, processing data in this manner is more effective, as social media data are typically large-scale and unstructured. RHO–ERNIE exhibits improved clustering and correlation measures, indicating its capability to suitably handle intelligently added complexities in real-time applications. This novel solution can extract information from social media and generate insights useful for analysis. RHO–ERNIE can serve as a new standard for natural language processing.

Keywords: Sentiment analysis, Text classification, Semantic analysis, ERNIE, Optimization algorithms

ISBN: 978-81-989164-2-6; DOI: 10.21467/abstracts.8.1