ICONSUS 2025

International Conference on Sustainability

Transforming Higher Education for a Sustainable Future

EDITORS

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Inês Messias, Sandra Oliveira

Santarém Polytechnique University | 11-12 September 2025

Co-funded by the European Union

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Disinformation and Misleading Information Detection with Natural Language Processing

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Abstract

The accuracy and reliability of the information ecosystem plays a vital role in achieving sustainable development goals. However, the rapid spread of disinformation and misleading content on digital platforms adversely affects the dissemination of scientific truth, undermines the effectiveness of environmental policies and misleads the public. In particular, climate change denial, misleading claims against environmental sustainability and health policies, and discourses that distort scientific facts shape public perceptions of public health, trust in scientific policies and environmental issues, and reinforce the cycle of misinformation. The avalanche of misinformation can even lead to panic and chaos in society and around the world. This study examines studies that use natural language processing (NLP) and machine learning methods to detect and analyze disinformation content spread on digital platforms. The study focuses on studies that apply NLP-based techniques such as sentiment analysis, topic modeling, and fake news detection to data sets collected from social media platforms. Additionally, the characteristics of misinformed discourse were identified in order to assess the impact, distribution, and spread of such content. The study is based on the examination and analysis of basic studies within the scope of disinformation, misleading and fake news detection. The goal of the study is to evaluate how well NLP models categorize false information and create plans to stop its spread while keeping in mind sustainability and scientific reality. To guarantee the accuracy of the information ecosystem, the results will offer evidence-based suggestions to sustainability scholars and policymakers alike. Disinformation detection systems with artificial intelligence support are regarded as an essential instrument for accomplishing sustainable development objectives and raising public awareness of significant issues with factual information.

Keywords: Disinformation Detection · Fake Detection · Social Media · Natural Language Processing · Deep Learning