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Editorial

# Special Issue “Recent Trends in Natural Language Processing and Its Applications”

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Special Issue

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*Editorial*

# Special Issue "Recent Trends in Natural Language Processing and Its Applications"

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The recent advancements in Artificial Intelligence have paved the way for remarkable achievements in tasks that have traditionally posed challenges even for humans. One of the notable applications is Natural Language Processing (NLP), which has recently gained prominence across various fields for tackling important tasks such as machine translation, natural language understanding, question answering, fake news detection, and more. Despite these accomplishments, the NLP field still faces significant challenges that necessitate the development of novel techniques and approaches. One example is the adaptation of groundbreaking NLP methods originally devised for English to other languages.

This Special Issue focused on recent trends and original applications of NLP. The state-of-the-art pieces of work published in this Special Issue delve into a range of topics, including sentiment analysis, information retrieval, natural language understanding, and applications to low-resource natural languages.

A total of eleven articles are presented in this Special Issue.

Huang et al. [1] introduced a text classification model that combines an improved self-attention mechanism with a skip-gate recurrent unit network to classify the irrelevant words in text classification. Bombini et al. [2] proposed a cloud-native web application for assisted metadata generation and retrieval based on a deep neural network for named entity recognition. Arabic language was investigated by Boulouard et al. [3] to detect hateful and offensive speech on Arabic websites and social media platforms using a transfer learning solution and by Alqurashi [4] to identify fine-grained Arabic language dialects in the form of short written text using several classical machine learning methods and deep learning convolutional neural networks. Ahmed et al. [5] introduced a heuristic approach to increase the accuracy of stacked autoencoders in sentiment analysis. Qin and Ronchieri [6] explored the effects of pandemic on social media posts by applying topic modeling and sentiment analysis to extract people's concerns and attitudes regarding the pandemic. Li et al. [7] also used topic modeling together with bidirectional LSTM to improve the marketing effectiveness using the reviews of product short videos. Urdu language was analyzed in the works of Li et al. [8] and Mehmood et al. [9]. The former work explores sentiment analysis for the Roman Urdu language using transfer learning technique, while the latter introduces a classification technique for threatening content on social media. Alashban et al. [10] used a convolutional recurrent neural network for spoken language identification on seven languages including Arabic. Finally, Alshahrani et al. [11] proposed a solution based on deep learning for intent detection, a critical task in natural language understanding.

Submissions for this Special Issue are now closed. Further studies and applications of NLP approaches continue to be proposed and address challenges that arise in low-resource languages.

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