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Editorial

Special Issue on Applications of Artificial Intelligence on Social Media

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The explosive expansion of social media platforms across the globe, including the likes of TikTok, WeChat, Twitter, and Facebook, has ushered in an era of unparalleled possibilities for individuals to forge connections and chronicle their social engagements. The development of social media hinges on the fusion of fundamental sciences such as computer science, data science, and artificial intelligence with engineering fields encompassing software development, user experience design, and data analytics. As we grapple with worldwide challenges such as political marketing, bot detection and spam detection, the utilization of artificial intelligence within the realm of social media is experiencing a profound revolution, with numerous AI technologies currently in active exploration and development.

This Special Issue is dedicated to gathering and showcasing cutting-edge research in the realm of applications of artificial intelligence on social media. It encompasses studies on various aspects such as natural language processing, machine learning, recommendation systems, and user behavior analysis, elucidating their operational mechanisms and their impact on user communities.

A total of nine research papers in various fields of artificial intelligence applications in social media including political marketing, bot detection, spam detection, sentiment analysis, emotion detection and recognition from text, fraud detection, sybil detection, dialogue state tracking (DST), and product promotion are presented in this Special Issue. Guedea-Noriega et al. [1] introduced an ontological model focused on the political marketing domain, which formed the foundation of a knowledge graph designed to streamline the integration and harmonization of data from diverse sources. Alothali et al. [2] tackled the challenge of labeled data scarcity in bot detection. They enhanced performance through a graph attention network mechanism that leveraged related labeled and unlabeled data, employing transfer learning techniques. This innovative approach combined the strengths of Graph Neural Networks (GNN) and Transfer Learning (TL) to boost bot detection accuracy. Alkadri et al. [3] proposed an integrated framework for Twitter spam detection, addressing the pervasive issue of Arabic spam on the platform. Their framework incorporated data augmentation, natural language processing, and supervised machine learning algorithms to improve the accuracy of spam detection. Yin et al. [4] presented an advanced sentiment analysis model, DPG-LSTM, which combined dependency parsing and graph convolutional networks with LSTM. This novel approach enhanced sentiment analysis accuracy. Gogula et al. [5] outlined a comprehensive strategy for recommending the best books to users. Their four-level approach included semantic network grouping, sentiment analysis, reviewer clustering, and a recommendation system to provide users with tailored book recommendations. Alsubaei [6] employed a design science approach to develop the "Fake Account Detector", a bot account designed to identify inappropriate posts associated with fake accounts. Machine learning, particularly the Random Forest (RF) algorithm, was utilized to train this detector. Lu et al. [7] introduced SybilHP, an optimized Sybil-detection method tailored for directed social networks with adaptive homophily prediction. They incorporated iteratively updated edge homophily estimation into

check for updates

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belief propagation to adapt to the personal preferences of social network users effectively. Xing et al. [8] proposed an external slot relation memory-based dialogue state tracking model (ER-DST). By utilizing external memory storage, they established relationships between slots as a multidomain slot relations dictionary. Lipianina-Honcharenko et al. [9] presented an approach for developing an intelligent information system for online product promotion. This system aimed to reduce advertising costs effectively.

While submissions for this Special Issue have closed, ongoing research in the realm of artificial intelligence applications in social media continues to delve deeper into addressing the contemporary challenges we confront. These challenges encompass anomaly detection, sentiment analysis, recommendation systems, and user behavior analysis.

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