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AnxietyNet: social media trends with fuzzy logic trees

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Abstract

In the digital age, social media platforms have become integral parts of daily life, facilitating communication, information sharing, and community building on a global scale. However, alongside the benefits of connectivity, concerns regarding public anxiety within these virtual communities have emerged. This research paper delves into the phenomenon of public anxiety on social media and proposes a novel approach utilizing fuzzy tree logic to analyze and address this issue. Through a comprehensive review of literature, theoretical frameworks, and practical applications, this paper aims to provide insights into the complex dynamics of public anxiety and offer potential solutions leveraging machine learning techniques. The proposed methodology involves the development of a cascading model to dynamically compute individual anxiety scores within social media networks. By analyzing structural influences and user interactions, this model aims to provide a nuanced understanding of anxiety dynamics within online communities. Additionally, a probabilistic model is designed to measure anxiety scores of social network messages, utilizing a generalized user profile. The integration of fuzzy tree logic enables the construction of a tree structure to effectively compute anxiety scores, offering a more flexible and human-like decision-making process. Preliminary experiments demonstrate the effectiveness of the proposed approach in capturing and analyzing public anxiety on social media platforms. The fuzzy tree model shows promise in accurately assessing anxiety levels and identifying key factors contributing to social anxiety within online communities. Moreover, the integration of machine learning techniques enhances the scalability and adaptability of the model, allowing for real-time analysis and proactive intervention strategies. This research underscores the importance of addressing public anxiety on social media through innovative analytical frameworks. By leveraging fuzzy tree logic and machine learning techniques, we can gain deeper insights into the dynamics of anxiety within online communities and develop targeted interventions to support individuals experiencing distress. Collaborative efforts in this endeavor hold the potential to foster societal well-being and resilience in the digital age.

Keywords: Fuzzy Tree Logic; Anxiety Detection; Data Analytics; Machine Learning

1. Introduction

In the digital age, social media platforms have become integral parts of daily life, facilitating communication, information sharing, and community building on a global scale. However, alongside the benefits of connectivity, concerns regarding public anxiety within these virtual communities have emerged. This research paper delves into the phenomenon of public anxiety on social media and proposes a novel approach utilizing fuzzy tree logic to analyze and address this issue.

2. Literature Review

The literature on public anxiety highlights its multifaceted nature and the myriad factors contributing to its emergence and propagation within communities. Traditional methods for assessing anxiety, such as self-report scales and psychological evaluations, have limitations in the context of online environments. However, recent advancements in fuzzy logic and machine learning offer promising avenues for addressing these challenges and gaining deeper insights

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in to the dynamics of public anxiety on social media.[1] We explore attitudes and behaviors towards online relationships as a person with depression. They conducted face-to-face interviews with 14 active Twitter users, half of whom were depressed and half were not. Their results show that there are significant differences between the two groups in their understanding of online social media and how they behave in these systems. In this article, they explore traditional methods used to predict suicide attempt to limit exposure and quantify the risk of this risky behavior [2]. Therefore, they tried to overcome these limitations by applying machine learning to electronic medical records in large medical databases.

3. Methodology

The proposed methodology for analyzing public anxiety on social media encompasses several key components, including data collection, preprocessing, modeling, and evaluation. The first step involves gathering data from social media platforms, including text-based conversations, voice interactions, and multimedia content. This raw data is then preprocessed to remove noise, extract relevant features, and prepare it for analysis. Next, we employ a cascading model to dynamically compute individual anxiety scores within social media networks [3]. This model takes into account structural influences, user interactions, and content characteristics to provide a nuanced understanding of anxiety dynamics [4]. By leveraging fuzzy tree logic, we construct a tree structure to effectively compute anxiety scores, considering factors such as linguistic terms, contextual cues, and user engagement metrics. In addition to individual anxiety scores, we develop a probabilistic model to measure anxiety scores of social network messages [4]. This model utilizes a generalized user profile and fuzzy inference techniques to assess the anxiety-inducing potential of each message. By considering linguistic patterns, sentiment analysis, and social network dynamics, this model provides insights into the collective anxiety levels within online communities [5]. The Data Flow Diagram of the model can be expressed as:

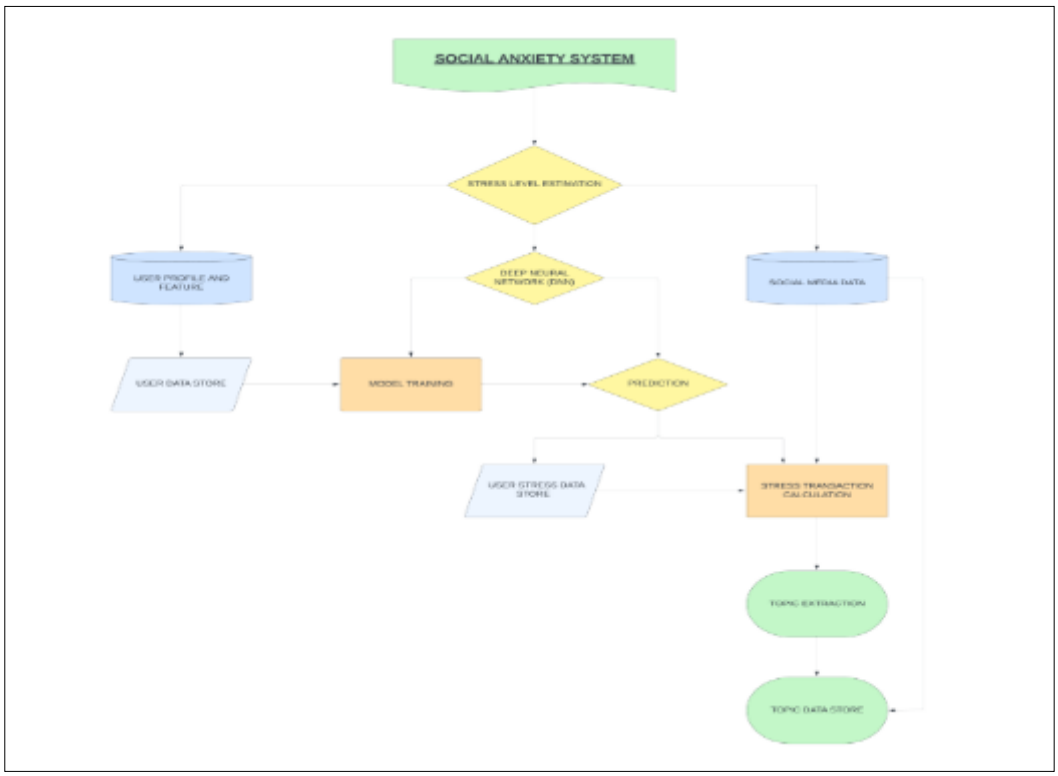

Figure 1 Data Flow Diagram

4. Results and Discussion

Preliminary experiments conducted using real-world social media datasets demonstrate the effectiveness of the proposed approach in capturing and analyzing public anxiety. The cascading model accurately computes individual anxiety scores, identifying influential factors and underlying patterns contributing to anxiety dynamics. Moreover, the probabilistic model offers valuable insights into the anxiety-inducing nature of social network messages, shedding light on the mechanisms through which anxiety propagates within online communities. The

integration of fuzzy tree logic and machine learning techniques enhances the scalability and adaptability of the proposed model, allowing for real-time analysis and proactive intervention strategies. By leveraging the inherent uncertainty and imprecision in social interactions, fuzzy tree logic provides a more advanced under- standing of public anxiety, enabling researchers and practitioners to develop targeted interventions and support mechanisms for individuals experiencing distress.

Figure 2 Structural Anxiety Front Page

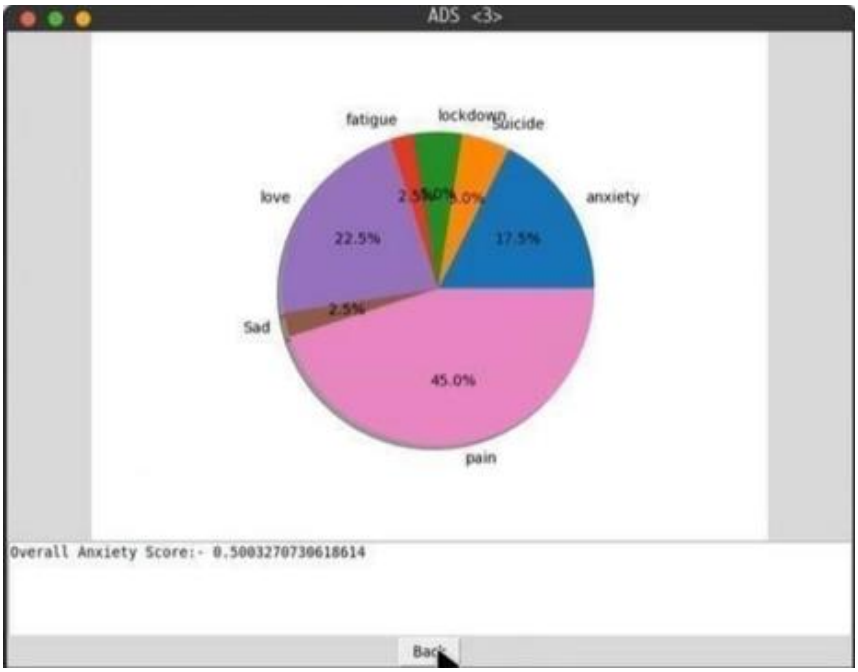

Figure 3 Structural Anxiety Result

5. Conclusion

In conclusion, this research paper presents a novel approach to analyzing public anxiety on social media using fuzzy tree logic and machine learning techniques. By integrating these analytical frameworks, we gain deeper insights into the complex dynamics of anxiety within online communities and develop targeted interventions to support individuals experiencing distress. Collaborative efforts in this endeavor hold the potential to foster societal well-being and resilience in the digital age, paving the way for a healthier collective experience in virtual spaces.

5.1. Future Scope

The future scope of the project on analyzing technology use, mental health, and decision-making processes using fuzzy logic is vast and promising. Given the evolving nature of technology and the increasing complexity of human behavior in digital environments, several areas can be explored to enhance and extend the current research.

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Neeharika Tripathi is currently working as an Assistant Professor in Ajay Kumar Garg Engineering College, Ghaziabad. She completed her Masters of technology in Computer Engineering from, Kurukshetra University in 2014. She Completed her Bachelor of Computer Science & Engineering in 2012 from Kurukshetra University. Her area of interest is in Cloud Computing, Artificial Intelligence, Software, Engineering.