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Depression and Stress Monitoring System via Social Media Data using Deep Learning Framework

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Abstract: Stress and Depression is one of the most broadly perceived and incapacitating mental issue that appropriately influences society. Automatic health monitoring systems could be pivotal and critical to improve sadness and stress recognition framework using social networking. Sentiment Analysis alludes to the utilization of natural language processing and content mining approaches planning to recognize feeling or opinion. Full of feeling Computing is the examination and advancement offrameworks and gadgets that can perceive, decipher, process, and mimic human effects. Sentiment Analysis and deep learning techniques could give powerful algorithms and frameworks to a target appraisal and observing of mental issue and, specifically of depression and stress. The application of sentiment analysis and deep learning methodologies to depression and stress detection and monitoring are discussed. In addition, a fundamental plan of an incorporated multimodal framework for stress and depression checking, that incorporates estimation investigation and full of feeling processing strategies, is studied. In particular, the paper traces the fundamental issues and moves comparative with the structure of such a framework.

Keywords: Deep learning, Ehealth, stress and depression, sentiment analysis, social media

REFERENCES

- [1]. Renata L. Rosa, Gisele M. Schwartz, Wilson V. Ruggiero, and Dem'ostenes Z. Rodr'ıguez, Senior Member, IEEE" A Knowledge- Based Recommendation System that includes Sentiment Analysis and Deep Learning" IEEE 2019.
- [2]. Guang Yang, Haibo He, Fellow, IEEE, and Qian Chen" Emotion-Semantic Enhanced Neural Network" IEEE 2019.
- [3]. M. Al-Qurishi, M. S. Hossain, M. Alrubaian, S. M. M. Rahman, and
- [4]. Alamri, "Leveraging analysis of user behavior to identify malicious activities in large-scale social networks," IEEE Transactions on Industrial Informatics, vol. 14, no. 2, pp. 799–813, Feb 2018.
- [5]. H. Lin, J. Jia, J. Qiu, Y. Zhang, G. Shen, L. Xie, J. Tang, L. Feng, and T. S. Chua, "Detecting stress based on social interactions in social networks," IEEE Transactions on Knowledge and Data Engineering, vol. 29, no. 9, pp. 1820–1833, Sept 2017.
- [6]. Budhaditya Saha, Thin Nguyen, Dinh Phung, Svetha Venkatesh" A Framework for Classifying Online Mental Health Related Communities with an Interest in Depression" IEEE 2016.
- [7]. Chun-Hao Chang, Elvis Saravia, Yi-Shin Chen" Subconscious Crowd- sourcing: A Feasible Data Collection Mechanism for Mental Disorder Detection on Social Media" 2016 IEEE/ACM
- [8]. Andrey Bogomolov, Bruno Lepri, Michela Ferron, Fabio Pianesi, Alex (Sandy) Pentland," Daily Stress Recognition from Mobile Phone Data,
- [9]. Weather Conditions and Individual Traits" IEEE Conference 2015
- [10]. Bimal Viswanath† Alan Mislove†‡ Meeyoung Cha† Krishna P. Gum- madi," On the Evolution of User Interaction in Facebook" ACM 2011
- [11]. I.-R. Glavan, A. Mirica, and B. Firtescu, "The use of social media for communication." Official Statistics at European Level. Romanian Statistical Review, vol. 4, pp. 37–48, Dec. 2016.

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- [12]. E. U. Berbano, H. N. V. Pengson, C. G. V. Razon, K. C. G. Tungcul, and S. V. Prado, "Classification of stress into emotional, mental, physical and no stress using electroencephalogram signal analysis," in 2017 IEEE International Conference on Signal and Image Processing Applications (ICSIPA), Sept 2017, pp. 11– 14
- [13]. J. Ham, D. Cho, J. Oh, and B. Lee, "Discrimination of multiple stress levels in virtual reality environments using heart rate variability," in 2017 39th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), July 2017, pp. 3989–3992.
- [14]. Y. Xue, Q. Li, L. Jin, L. Feng, D. A. Clifton, and G. D. Clifford, "Detecting adolescent psychological pressures from micro-blog," in
- [15]. Health Information Science. Springer International Publishing, 2014, pp. 83–94.
- [16]. S. Tsugawa, Y. Kikuchi, F. Kishino, K. Nakajima, Y. Itoh, and H. Ohsaki, "Recognizing depression from twitter activity," in Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems, 2015, pp. 3187–3196.
- [17]. M. De Choudhury, S. Counts, E. J. Horvitz, and A. Hoff, "Characterizing and predicting postpartum depression from shared facebook data," in Proceedings of the 17th ACM Conference on Computer Supported Cooperative Work; Social Computing, 2014, pp. 626–638.
- [18]. R. Rodrigues, R. das Dores, C. Camilo-Junior, and C. Rosa, "Sentihealth-cancer: A sentiment analysis tool to help detecting mood
- [19]. of patients in online social networks," International Journal of Medical Informatics, vol. 1, no. 85, pp. 80–95, 2016
- [20]. M. Khodayar, O. Kaynak, and M. E. Khodayar, "Rough deep neural architecture for short-term wind speed forecasting," IEEE Transactions on Industrial Informatics, vol. 13, no. 6, pp. 2770–2779, Dec 2017.
- [21]. N. Majumder, S. Poria, A. Gelbukh, and E. Cambria, "Deep learning based document modeling for personality detection from text," IEEE Intelligent Systems, vol. 32, no. 2, pp. 74–79, Mar 2017.
- [22]. R. G. Guimar aes, R. L. Rosa, D. D. Gaetano, D. Z. Rodr guez, and
- [23]. G. Bressan, "Age groups classification in social network using deep learning," IEEE Access, vol. 5, pp. 10 805–10 816, 2017.
- [24]. O. Araque, I. Corcuera-Platas, J. F. S'anchez-Rada, and C. A. Iglesias, "Enhancing deep learning sentiment analysis with ensemble techniques in social applications," Expert Systems with Applications, vol. 77, pp. 236 246, 2017.
- [25]. Y. Chen, M. L.-J. Yann, H. Davoudi, J. Choi, A. An, and Z. Mei, "Contrast pattern based collaborative behavior recommendation for life improvement," Jun 2017, pp. 106–118.
- [26]. H. Hu, A. Elkus, and L. Kerschberg, "A personal health recommender system incorporating personal health records, modular ontologies, and crowd-sourced data," in 2016 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), Aug 2016, pp. 1027–1033.
- [27]. Sachinopoulou, J. Leppanen, H. Kaijanranta, and J. Lahteenmaki, "Ontology-based approach for managing personal health and wellness information," in 2007 29th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Aug 2007, pp. 1802–1805.
- [28]. J. Tang, Y. Zhang, J. Sun, J. Rao, W. Yu, Y. Chen, and A. C. M. Fong, "Quantitative study of individual emotional states in social networks," IEEE Transactions on Affective Computing, vol. 3, no. 2, pp. 132–144, April 2012.

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