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Multimodal Information Processing: Some recent NLP applications

Asbtract: Multimodal information processing deals with the efficient usage of information available in different modalities such as audio, video, text, etc. for solving various task applications of real life. This talk will discuss how the multimodal information extracted from different modalities can help improve different tasks of summarization, hate speech detection, and complaint mining. Multimodal information collected from videos, images, and texts can be utilized to generate a summary. Images and texts collected from Amazon reviews are utilized to develop aspect-based multimodal complaint detection systems in a multi-task setting where sentiment and emotion information are utilized as auxiliary tasks. Memes collected from social media are utilized to detect hate speech in a multitasking setting where sentiment, emotion, and sarcasm detection are utilized as auxiliary tasks. This talk will highlight the different applications of multimodal information processing in solving different NLP tasks.

Biodata: Dr. Sriparna Saha is an associate professor at the Department of Computer Science and Engineering, Indian Institute of Technology Patna, India. She has authored or co-authored more than 400 papers. Her research interests include machine learning, deep learning, natural language processing, multiobjective optimization, and biomedical information extraction. Her h5-index is 40, and the total citation count of her papers is 8897 (according to Google Scholar). She is also a senior member of IEEE, ACM, and a fellow of IET, UK. Her research publications have been published in reputed forums like IEEE/ACM Transactions, ACL, AAAI, ACM Multimedia, NAACL, EACL, ECML, COLING, SIGIR, ECIR, ECAI, and others. She won the best paper awards in ICONIP 2023, CLINICAL-NLP workshop of COLING 2016, and Area-chair-award (Information Extraction) at IJCNLP-AACL 2023. She is currently also serving as the Associate Editor of IEEE Transactions on Artificial Intelligence, IEEE/ACM Transactions on Computational Biology and Bioinformatics, IEEE Transactions on Computational Social Systems, ACM Transactions on Asian and Low-Resource Language Information Processing, Expert Systems with Applications, Pattern Recognition Letters, Pattern Recognition, PLOS ONE, Machine Learning with Applications.

