## Automatic Vocabulary Grouping and Deep Combination for News Credibility and Reliability Evaluation Corresponding to Specific Language

Ming-Shen Jian\*, Rong-Bin Deng\*\*, Chen-Wei Fang\*\*\*, Hua-Yu Wu\*\*\*\*, Wen-Hsiang Hsieh\*\*\*\*\*

Cloud Computing and Intelligent System Lab., Dept. of CSIE, National Formosa University Yunlin County, Taiwan 632

jianms@nfu.edu.tw, 40743162@gm.nfu.edu.tw, 40743206@gm.nfu.edu.tw, 40743212@gm.nfu.edu.tw, 40743160@gm.nfu.edu.tw

Abstract—Considering the spread of the intentional false news, to be aware of the new news is important. In this research, the Automatic Deep Vocabulary Grouping and Combination for News Credibility and Reliability Evaluation is proposed which includes Key Vocabularies Merging Method and False News Warning Method. By merging different algorithms, the proposed system could cluster and group the fake news according to the found features of various fake news content. The proposed system could find and verify the features of the specific intentional false news according to the proposed deep combination evaluation function. After suitable verification and recursive checking, the minimum groups for clustering the fake news could be given. Based on the collected features of the various intentional false news, the new coming news can be classified as the false news due to the feature matching percentage. According to the verification, all the collected and proved fake news could be found and clustered into the corresponding fake news groups.

## Keyword—False News, Cluster, Web Crawler, Cloud Computing



Ming-Shen Jian was born in Kaohsiung City, Taiwan in 1978. He received the B.S. from the National Chiao Tung University, HsinChu, and Ph.D degrees in Computer Science and Engineering from the National Sun Yat-sen University, Kaohsiung, Taiwan in 2007. From 2018, he was an Associate Professor and director with the National Formosa University Cloud Computing and Intelligent System Laboratory. Currently he is also an IEEE Senior Member. Since 2009, he has been an Assistant Professor with the Computer Science and Information Engineering Department, National Formosa University. He is the author of four books, more than 50 articles, and at least 15 invention patents. His research interests include IOT development and application, Big Data, Optimal Solution, Intelligent System, and Cloud Computing. He was a Secretary of the Taiwan Association of Cloud Computing. Dr. Jian was a recipient of the IEEE sponsored

international conference Paper Award in 2016, 2017, and 2018.



Rong-Bin Deng was born in 2000, Taiwan. Currently he is an B.S. degree student of Dept. Computer Science and Information Engineering at National Formosa University. His current research interests are in the area related to Web Service, and Cloud Computing. He joins the Cloud Computing and Intelligent System Lad. (CCIS Lab.) from 2019.



Chen-Wei Fang was born in 1999, Taiwan. Currently he is an B.S. degree student of Dept. Computer Science and Information Engineering at National Formosa University. His current research interests are in the area related to IoT, and Cloud Computing. He joins the Cloud Computing and Intelligent System Lad. (CCIS Lab.) from 2019.



**Hua-Yu Wu** was born in 1999, Taiwan. Currently he is an B.S. degree student of Dept. Computer Science and Information Engineering at National Formosa University. His current research interests are in the area related to Big Data, and Cloud Computing. He joins the Cloud Computing and Intelligent System Lad. (CCIS Lab.) from 2019.



**Wen-Hsiang Hsieh** was born in 2000, Taiwan. Currently he is an B.S. degree student of Dept. Computer Science and Information Engineering at National Formosa University. His current research interests are in the area related to Web Service, and Cloud Computing. He joins the Cloud Computing and Intelligent System Lad. (CCIS Lab.) from 2019.