Recent Challenges of Named Entity Recognition in Knowledge Graph Construction

Named entity recognition (NER) is a key step in building a knowledge graph. Although the existing neural network-based named entity model has achieved great success in some fields, there are two obvious shortcomings: First, the existing methods mainly focus on the task of non-nested named entity recognition, and ignore the entity’s multi-level nesting problem; second, the existing methods mainly focus on the text in the news media field, and the performance of the short text in the social media field is drastically reduced due to insufficient context information. To Address the first problem, we propose two models for nested named entity recognition based on boundary information. To address the second problem, we respectively proposed two multimodal named entity recognition models based on text and visual representation. Considering that visual tags may lose some semantic information to a certain extent, we then proposed a multi-modal NER model based on adversarial training and bilinear attention mechanism.

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Prof. Yi Cai is the Director of the Guangdong-HongKong-Macau-Joint Laboratory of Big Data and Robotic Intelligence. He received his doctorate in Chinese University of Hong Kong, and worked as postdoctoral fellow at City University of Hong Kong. He has published more than 140 papers in international journal and conferences, including IEEE Transactions on Knowledge and Data Engineering, Transactions on Affective Computing, IEEE Transactions on Multimedia, ACM Transactions on Autonomous and Adaptive Systems, Neural Networks, AAAI, ACM MM, ACL, EMNLP, COLING, AAMAS and CIKM. He acts as the PC Co-chair of APWeb-WAIM 2018, CCKS 2020 Industry Track Chair, ICEBE 2021 PC Co-Chair, ICME 2021 Sepical Session Chair and General Co-chair of APWeb-WAIM 2021.

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