THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

COMP RESEARCH STUDENT SEMINAR

Date : 6 April 2023 (Thu)
Time : 11:00 am - 12:00 pm
Venue : TU107 (Face-to-face)

Borrowing Human Senses: Comment-Aware Self-Training for Social Media Multimodal Classification

Abstract

Social media is daily creating massive multimedia content with paired image and text, presenting the pressing need to automate the vision and language understanding for various multimodal classification tasks. Compared to the commonly researched visual-lingual data, social media posts tend to exhibit more implicit image-text relations. To better glue the cross-modal semantics therein, we capture hinting features from user comments, which are retrieved via jointly leveraging visual and lingual similarity. Afterwards, the classification tasks are explored via self-training in a teacher-student framework, motivated by the usually limited labeled data scales in existing benchmarks. Substantial experiments are conducted on four multimodal social media benchmarks for image-text relation classification, sarcasm detection, multimodal sentiment classification, and hate speech detection. The results show that our method further advances the performance of previous state-of-the-art models, which do not employ comment modeling or self-training.

Mr Chunpu XU
PhD candidate
Department of Computing

About the Speaker

Chunpu Xu received his B.E. degree from Shandong University, in 2018, and M.E. degree from Huazhong university of science and technology, in 2020. He is now a Ph.D. candidate at the Department of Computing at The Hong Kong Polytechnic University, under the supervision of Jing Li. His research interest focuses on NLP for social media, including computational social science and multimodal social media representation learning.

Improving Multi-turn Emotional Support Dialogue Generation with Look-ahead Strategy Planning

Ms Yi CHENG
PhD candidate
Department of Computing

About the Speaker

Yi Cheng received her bachelor's degree in Electronic Engineering and Computer Science from Peking University in 2020. She is now a Ph.D. candidate at the Department of Computing at The Hong Kong Polytechnic University, under the supervision of Wenjie Li. Her research interest focuses on NLP for social good, including emotional support dialogue systems and medical consultation dialogue systems.

Abstract

Providing Emotional Support (ES) to soothe people in emotional distress is an essential capability in social interactions. Most existing researches on building ES conversation systems only considered single-turn interactions with users, which was over-simplified. In comparison, multi-turn ES conversation systems can provide ES more effectively, but face several new technical challenges, including: (1) how to adopt appropriate support strategies to achieve the long-term dialogue goal of comforting the user's emotion; (2) how to dynamically model the user's state. In this paper, we propose a novel system MultiESC to address these issues. For strategy planning, drawing inspiration from the A* search algorithm, we propose look-ahead heuristics to estimate the future user feedback after using particular strategies, which helps to select strategies that can lead to the best long-term effects. For user state modelling, MultiESC focuses on capturing users' subtle emotional expressions and understanding their emotion causes. Extensive experiments show that MultiESC significantly outperforms competitive baselines in both dialogue generation and strategy planning.