Hangyu Liu hangyuliu96@gmail.com · 086-18080538188

EDUCATION

Northeast Electric Power University Jilin, China
M.S. Computer Science *09/2019 - Present*
GPA: 89.26

Southwest University of Science and Technology Mianyang, China
B.S. Software Engineering *09/2015 - 06/2019*
GPA: 81.14

INTERESTS

Human-Computer Interaction, Natural Language Processing, Affective Computing, Social Computing, Sentiment Analysis, Data Mining, Feature Generation, Pattern Recognition, Quantum Cognition

RESEARCH EXPERIENCES

Public Opinion Analysis during COVID-19 on Social Media *08/2021 – Present*
Project Member

- Preprocessing data including tokenizing (N-gram), normalizing, POS tagging, named entity recognition, denoising and word embedding.
- Analyzing the relation of events based on topic modeling. (undergoing)
- Evaluating groups' stress response during COVID-19 based on the attitude towards divergent events. (undergoing)

Fine-tuning Pre-Trained Model on Literature Readability *06/2021 - 08/2021*
Project Member

- Preprocessing data including standard NLP procedures and data augmentation.
- Fine-tuning pre-trained language models RoBERTa and XLNet for downstream task.

Question Answering System on a Domain-Specific Corpus *02/2021 - 05/2021*
Project Member

- Fine-tuning pre-trained language model BERT for QA task with information retrieval technique.

Fine-Grained Emotional Recognition on EEG Brain Signals *04/2020 - 02/2021*
Supported by the Science and Technology Development Plan of Jilin Province, China (No.20200403039SF).
Project Leader

- Preprocessing EEG signals including wavelet transform, signal segmentation, and denoising.
- Designing and conducting a semantic similarity questionnaire on 134 participants.
- Designing formulas of emotional quantification based on emotional similarity (lexicon-based and questionnaire-based)
- Generating features based on pattern recognition of preprocessed EEG signals.
- Proposing EMER model with outstanding performance on emotional recognition task.
- Writing and publishing paper on Applied Sciences.

Quantifying Emotional Expression on Social Media *02/2020 - 06/2020*
Supported by the National Natural Science Foundation of China (No.61701104)

Project Leader

- Extracting features based on the emotional lexicon.
- Designing quantification formulas based on quantity and quality of emotions.
- Quantifying emotional expression of different groups of people on social media.
- Attending IIHMSP/FITAT conference.

Sentiment Analysis of Mental Health on Social Media *10/2019 - 02/2020*

Supported by the National Natural Science Foundation of China (No.61701104)

Project Leader

- Preprocessing text data including tokenizing (N-gram), normalizing, denoising, feature extraction and word embedding.
- Generating fine-grained emotional lexicon with 21 representative emotions based on cluster analysis and data fusion.
- Generating features based on lexicon and pattern recognition of emotional sequences.
- Proposing MDI model with efficient performance on evaluating mental health.
- Writing and publishing paper on Applied Sciences.

PUBLICATIONS

1. Multidimensional Emotion Recognition Based on Semantic Analysis of Biomedical EEG Signal for Knowledge Discovery in Psychological Healthcare. Ling Wang, **Hangyu Liu**, Tiehua Zhou, Wenlong Liang, and Minglei Shan. In Applied Sciences, 2021
2. Emotional Expression Analysis Based on Fine-Grained Emotion Quantification Model Via Social Media. Ling Wang, **Hangyu Liu**, Wenlong Liang, and Tiehua Zhou. In Intelligent Information Hiding and Multimedia Signal Processing in conjunction with Frontiers of Information Technology, Applications and Tools (IIHMSP/FITAT), 2021
3. Wavelet-Based Emotion Recognition Using Single Channel EEG Device. Tiehua Zhou, Wenlong Liang, **Hangyu Liu**, Ling Wang. In International Conference on Intelligent Computing (*ICIC*), 2020
4. A Sequential Emotion Approach for Diagnosing Mental Disorder on Social Media. Ling Wang, **Hangyu Liu**, Tiehua Zhou. In Applied Sciences, 2020

PATENTS

1. An Emotion Recognition System based on EEG Signal. Ling Wang, Tiehua Zhou, and **Hangyu Liu**. CN202011462452.3. 2020 (under substantive examination)
2. A Mental Health Evaluation System based on Sequential Emotion Approach. Ling Wang, Tiehua Zhou, and **Hangyu Liu**. CN202010044403.1. 2020 (under substantive examination)

AWARDS

- National Scholarship for Postgraduates 2020