Qihan Wang

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RESEARCH INTERESTS

Natural Language Processing, Machine Learning, Data Mining, Computational Social Science, Social Network Analysis

EDUCATION

B.S. Psychology, Peking University — Sep 2019 - Jul 2023

- **Academics:** Overall GPA: 3.70, Rank 16%
- **Mathematical skills:** Calculus, Linear Algebra, Probability, Statistics (Hypothesis Testing, Bayesian Inference, Causal Inference, Machine Learning), Data Structure and Algorithms.
- **Coding Skills:** Python, Matlab, C/C++. Familiar with Machine Learning, Deep Learning, Natural Language Processing and Network Analysis.
- **Language Proficiencies:** TOEFL 109 (L29+R29+S23+W28), GRE 325 (AW:3.5)

PUBLICATIONS

[1] **Qihan Wang**, Keith Burghardt, "Uncovering violence radicalization in online communities", in preparation to be submitted to *NAACL'24*.

[2] **Qihan Wang**, Anique Tahir, Zeyad Alghamdi and Huan Liu, "Exploring Musical, Lyrical, and Network Dimensions of Music Sharing Among Depression Individuals", submitted to *WWW'24*, arxiv: https://arxiv.org/abs/2310.11557

[3] **Qihan Wang**, Daniel Avrahami and Gary Hsieh, "A Like for #Happy, A Comment for #Unhappy: Exploring the Relationship between Emotion in Social-Media Posts and Audience Engagement", submitted to *CSCW'24*

EXPERIENCE

Aalto University, Department of Computer Science — Aug 2023 - Present
Project: Analyzing Users' Concerns and Perspectives about Mental Health Apps at Scale
Independent Research, Advised by Talayeh Aledavood.

- Analyzed user reviews to investigate user perspectives about mental health apps at scale.
- Collected user review data by scraping Google Play and App Store.
- Proposed methodology for categorizing and analyzing app reviews from different aspects.
- Fine-tuned BERT models by PyTorch to categorize mental health app reviews.
- Utilized sentiment analysis and topic modeling by LDA to extract the topics and sentiments of each category.

University of Southern California, Information Sciences Institute — Jun 2023 - Oct 2023
Project: Uncovering Violence Radicalization in Online Communities
Independent Research, Advised by Keith Burghardt.

- Classify comments advocating violence and investigate user's radicalization of violence after joining hate group.
- Fine-tuned deep learning based NLP models by PyTorch to develop a multi-label classification for 10 hate-speech-related labels. Fine-tuned BERT model for classify violence and improved 20% precision and recall by contrast to previous model.
- Compared user's frequency of advocating violence before and after joining hate group.

Arizona State University, School of Computing and Augmented Intelligence — Jun 2023 - Oct 2023
Project: Towards Understanding Depression through Music Preferences
Independent Research, Advised by Huan Liu.

- Aimed to understand the differences in music preferences between individuals diagnosed with depression and non-diagnosed individuals.
- Extracted songs' musical features by Spotify API and discern notable variations of music preference.

- Leveraged NLP methods such as LDA and LIWC to analyze the difference in topics and language use in lyrics.
- Conducted community detection to study the cluster of depression and non-depression playlists.

University of Washington, Dept of Human Centered Design & Engineeriing Jun 2022 - Jul 2023
Project: Exploring the Relationship between Emotion and Audience Engagement on Social Media
Independent Research, Advised by Gary Hsieh.

- Scraped emotional posts from X. Categorized the emotion of the post.
- Analyzed the relationship between emotion and audience engagement by statistic methods.
- Conducted survey to investigate the reasons of engaging in emotional posts on social media.

AWARDS

Award of Excellent Graduate Student (20%)	2023
Scholarship of Peking University (15%)	2021, 2022
Scholarship of The School of Cognitive and Psychological Science (15%)	2021, 2022
Award of Merit Student (15%)	2021, 2022