Suyu Ge

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Education

Tsinghua University, Beijing, China 08/2017 – 07/2021 (expected)

B.Eng. in Electronic Engineering, GPA: 3.80/4.00

Selected Publications

- **Suyu Ge**, Chuhan Wu, Fangzhao Wu, Tao Qi, Yongfeng Huang, "*Graph Enhanced Representation Learning for News Recommendation*", in the Web Conference (**WWW**), 2020, [PDF] [Microsoft News Dataset] [Competition]
- **Suyu Ge**, Tao Qi, Chuhan Wu, Fangzhao Wu, Xing Xie, Yongfeng Huang, "*Helpfulness-aware Review Based Neural Recommendation*", in CCF Transactions on Pervasive Computing and Interaction, 2019, [PDF]
- **Suyu Ge**, Tao Qi, Chuhan Wu, Yongfeng Huang, "*Detecting and Extracting of Adverse Drug Reaction Mentioning Tweets with Multi-Head Self Attention*", in the Fourth Social Media Mining for Health Applications (**SMM4H**) Workshop, colocated with **ACL**, 2019, [PDF]

Under Review:

- **Suyu Ge**, Fangzhao Wu, Chuhan Wu, Tao Qi, Yongfeng Huang, Xing Xie, "*FedNER: Medical Named Entity Recognition with Federated Learning*", **Preprint**, under review as a conference submission, 2020, [PDF]
- **Suyu Ge**, Lu Cheng, Huan Liu, "*Improving Cyberbully Detection with User Interaction*", **Preprint**, under review as a conference submission, 2020, [PDF]

For a full publication list, please visit here.

Research Experience

Data Mining Group (DMG), University of Illinois at Urbana-Champaign 07/2020 – Present

Topic: Topic-based Corpus Summarization with Minimal Supervision
Advisor: Prof. Jiawei Han

- Initiated a novel text mining task for topic-based corpus summarization with only seed topics.
- Mined hierarchical topic structures from large corpora and profiled the corpora by generating sentiment-aware summarization for each topic. Validated it preliminarily on the Yelp/Amazon Review. *Work in progress*.

Data Mining and Machine Learning lab (DMML), Arizona State University 02/2020 – 10/2020

Topic: Cyberbully Detection
Advisor: Prof. Huan Liu

- Designed a graph attention network based architecture to model the temporal and semantic repetition in cyberbully.
- Improved benchmark results under different datasets and evaluation metrics. *First-author paper under review*.

New Generation Network Group (NGN), Tsinghua University 10/2018 – 05/2020

Topic: Text-based Recommendation and Privacy-preserving Named Entity Recognition (NER)
Advisor: Prof. Yongfeng Huang Mentor: Fangzhao Wu@Microsoft Research Asia (MSRA)

- (News Rec.) Proposed to enhance representation learning by exploring high-order relatedness in the user-news interaction graph and completed empirical evaluations. The related news recommendation dataset was released as a [shared task] by Microsoft. *First-author paper accepted by WWW 2020.*
- (Item Rec.) Devised a framework to improve review based recommendation with predicted helpfulness levels of reviews and validated it on four benchmarks. *First-author paper accepted by CCF Trans.*
- (Privacy-preserving NER) Applied federated learning to protect medical data privacy in the training process of a decomposed NER model and validated on three benchmarks. *First-author paper under review*.

Health Language Processing Lab (HLP), University of Pennsylvania 07/2019 – 11/2019

Topic: Medical Non-adherence Discovery
Advisor: Prof. Graciela Gonzalez Hernandez

- Performed semi-automatic analysis of social media with active learning to detect and understand non-adherence.
- Transferred medical knowledge from WebMD to Twitter. *Second-author poster accepted, paper under review.*

Academic Evaluation

Social Media Text Mining for Health, SMM4H 2019 Shared Task colocated with ACL 2019

System Description: Detecting and Extracting of ADR Mentioning Tweets with Multi-Head Self Attention [PDF]

- Proposed a language model enhanced Self-Att architecture for adverse drug effect classification and extraction.
- Our system ranked 2^{nd} in the adverse effect extraction subtask. *First-author paper accepted by the workshop*.

Contextual Emotion Detection in Text, SemEval 2019 Task 3 colocated with NAACL 2019

System Description: Dialog Emotion Classification using Attentional LSTM-CNN [PDF]

- Proposed an attentional LSTM-CNN model to classify the emotions of short turns of dialogues.
- Our system ranked top 10% among 165 participants. *First-author paper accepted by the workshop*.

Toponym Resolution in Scientific Papers, SemEval 2019 Task 12 colocated with NAACL 2019

System Description: Toponym Detection and Disambiguation on Scientific Papers [PDF]

- Proposed a TagLM-based NER model with various domain features for toponym detection and resolution.
- Our system ranked 2^{nd} in the toponym detection subtask. *Second-author paper accepted by the workshop*.

Awards and Honors

Nanxiang Jiang Scholarship 2019

- 30/3300+ in Tsinghua University

The First Prize of Tsinghua Research Challenge Cup 2020

- Project Name: Text Understanding based Recommender Systems
- Advisor: Prof. Yongfeng Huang

Research Excellence Scholarship 2019/2020

Comprehensive Excellence Scholarship (Academic, Research, Sports) 2019

Philobiblion Scholarship 2018

Extracurricular

EE Student Association of Science and Technology, Tsinghua University 2018-2020

Committee Member of Software Department

- Designed front-end webpages of 2 coding competitions jointly with other members

EE Swimming Team 2017-2021

Captain

- Participated and Organized 6 swimming competitions

Misc.

English:

- TOEFL: 109 (Reading 29; Listening 28; Speaking 27; Writing 25)
- GRE: 327 (Verbal 157; Quantitative 170; Writing 4.0)

Skills:

- Programming: Python, C/C++, MATLAB, Bash, JavaScript, SQL
- Machine Learning: Keras, Tensorflow, PyTorch, scikit-learn

Interests:

- I am passionate about Fashion and Music :)