Rongzhi Zhang

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Education

Georgia Institute of Technology — Atlanta, GA, USA
M.S. in Electrical and Computer Engineering — *Aug. 2019 – May 2021*
Advisor: Prof. Chao Zhang
Overall GPA: 3.90/4.00

Zhejiang University — Hangzhou, Zhejiang, China
B.Eng. in Measurement Control Technology and Instruments — *Sep. 2015 – July 2019*
Overall GPA: 3.83/4.00 Major GPA: 3.93/4.00 Ranking: Top 3%

Harvard Medical School — Boston, MA, USA
Undergraduate Thesis Research in Neural System Group — *Sep. 2018 – May 2019*
Advisor: Prof. Quan Zhang

Experience

Graduate Teaching Assistant | Georgia Institute of Technology — Atlanta, GA, USA
CS 4641/7641 - Machine Learning (Fall 2020) — *Aug. 2020 - Dec. 2020*

Research Intern | GoodWill Inc. — Beijing, China
Medical Artificial Intelligence Team — *May 2019 - Aug. 2019*

Research Intern | University of Western Australia — Perth, WA, AUS
Center for Acoustics, Dynamics and Vibration | Supervisor: Prof. Jie Pan — *July 2018 - Aug. 2018*

Publication

- SMOG: Stacked Module-Gating Network for Few-shot Event Extraction
  Rongzhi Zhang, Yang Luo, Yue Yu, Rui Feng, Wendi Ren and Chao Zhang.
  In *Submission to Proceedings of the Conference of the North American Chapter of the Association for Computational Linguistics (**NAACL**)*, 2021.

- SeqMix: Augmenting Active Sequence Labeling via Sequence Mixup
  Rongzhi Zhang, Yue Yu and Chao Zhang.
  In *Proceedings of the Conference on Empirical Methods in Natural Language Processing (**EMNLP**)*, 2020

- Cuffless Continuous Blood Pressure Monitoring via Sensor Array
  Rongzhi Zhang
  Undergrad Thesis
  Outstanding Undergrad Thesis, Zhejiang University, 2019.

Research Projects

Stacked Module-Gating Network for Few-shot Event Extraction — Prof. Chao Zhang
Data Mining and Machine Learning Group, Georgia Tech — *July 2020 - Nov. 2020*

- Proposed a stacked module-gating network, which exploits argument-based module classifiers and a gating layer for few-shot event extraction;
- Designed backup modules to accommodate possible emerging arguments roles in the fine-tuning stage;
- Experiments on the ACE05 dataset showed the proposed framework outperforms state-of-the-art event extraction models in a pretrain-finetune manner where the emerging event types involved.

Augmenting Active Sequence Labeling via Sequence Mixup — Prof. Chao Zhang
Data Mining and Machine Learning Group, Georgia Tech — *Feb. 2020 - June 2020*

- Proposed an augmentation method for active sequence labeling by generating extra labeled sequences in each active learning round;

- Performed linear interpolation for both sequences and token-level labels using the queried samples;
- Employed a discriminator to judge whether the generated sequences were plausible or not;
- Improved the standard active sequence labeling method by $2.27\% - 3.75\%$ in terms of F1 scores.

Role Identification in Online Discussion of Political Events Prof. Srijan Kumar
CSE 6240 - Web Search and Text Mining, Georgia Tech *Feb. 2020 - May 2020*

- Constructed the representation of Reddit users who participated in the political discussion based on involved topics, discourse acts, linguistic features, and social network analysis;
- Used Gaussian Mixture Model (GMM) to identify roles in online political discussions;
- Interpreted and evaluated the 11 derived roles and assessed the stability and dynamics of roles.

Medical New Words Detection in Chinese Electronic Health Records
Medical AI Team, GoodWill Inc. *May 2019 - Aug. 2019*

- Detected new words in Chinese electronic health records (EHRs) by a bi-LSTM-CRF network;
- Leveraged Chinese characters and corresponding radicals as one of the input features, considering that Chinese corpus involving diseases and organs inherently have radical characteristics;
- Obtained 92.0% precision and 88.4% recall on the BIO-labeled dataset with 680k words.

Cuffless Continuous Blood Pressure Monitoring via Sensor Array Prof. Quan Zhang
Neural System Group, Harvard Medical School *Sep. 2018 - May 2019*

- Proposed a novel multi-modality blood pressure measurement method and designed a sensor array that reduces the original sensing area by 64%, solving the difficulty of positioning and frequent calibration;
- Configured multiple sensors and applied multi-channel physiological signal fusion to increase the frequency band and enhance the blood pressure monitoring accuracy;
- Conducted extensive human-involved experiments and showed the developed equipment satisfying the IEEE 1708 standard for wearable blood pressure instruments.

Structural Extraction for Chinese Electronic Healthcare Records Prof. Zhengxing Huang
Medical Informatics Lab, Zhejiang University *Sep 2016 - May. 2017*

- Designed domain-specific rules to process syntactic structures of EHRs;
- Applied CRF-based model for clinical named entity recognition;
- The experiment result achieved 97% precision and 80%recall on the dataset consisting of 6k EHRs.

Activities

Player of Chinese Basketball Team, Harvard University *Sep. 2018 - May 2019*

- Enrolled in the Northeastern Chinese Basketball League on behalf the Harvard Chinese Students & Scholars Association (HCSSA).

Player of Men's Basketball Team, Zhejiang University *Sep. 2016 - June 2018*

- Champion of Zhejiang Province, China University Basketball Association (CUBA) Division 2, 2016

Selected Awards

- Outstanding Graduate, Zhejiang University — June 2019
- Outstanding Undergrad Thesis, Zhejiang University — May 2019
- Zhejiang Provincial Government Scholarship (Top 3%) — Nov. 2018
- First-class Excellent Undergraduate Scholarship, Zhejiang University (Top 3%) — Oct. 2018
- First-class Academic Scholarship, Zhejiang University (Top 3%) — Oct. 2018
- Student Innovation Research Funding, Zhejiang Province — May 2016
- The First Prize in the 31st Chinese Physics Olympiad (CPhO) — Oct. 2014

Academic Services

- Program Committee / Reviewer: TKDE 2020