

Zhi (Bruce) Wen

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Education

- 2019 – **McGill University - Computer Science, Montreal, Canada.**
MSc in Computer Science (Thesis), supervised by Prof. Yue Li. GPA 3.95/4.0.
- 2015 – 2019 **Wuhan University - Electronic Information Engineering, Wuhan, China.**
BEng in Electrical Engineering (Excellent Engineer Program)

Research Interests

- Natural Language Processing (NLP) with external knowledge
- Machine learning and NLP in healthcare

Academic Experience

- Sept. 2019 – **McGill University, Research Assistant.**
- Supervised by Prof. Yue Li and partly sponsored by Mitacs Globalink Graduate Fellowship.
 - Research in machine learning and Natural Language Processing in healthcare.
 - Participated as core members in several projects including predicting prolonged mechanical ventilation, large-scale public medical text dataset construction, and assessing COVID-19 public health responses from media news.
 - Published or expect to publish in Nature Communications, EMNLP 2020 Clinical NLP, ACM-BCB, PLOS ONE, etc.
- Nov. 2019 – **McGill University, Neurips 2019 Reproducibility Challenge.**
- Dec. 2019
- Conducted extensive ablation study of *Controllable Unsupervised Text Attribute Transfer via Editing Entangled Latent Representation* to examine its claims' soundness and its model's robustness.
 - Project report available here: <https://openreview.net/forum?id=XibbOqrT4q>.
- July 2018 – **University of Toronto, Research Intern.**
- Oct. 2018
- Sponsored by Mitacs Globalink Research Internship program as research student for Dr. Andrea Kassner of University of Toronto and The Hospital for Sick Children.
 - Supported multiple projects by analyzing and visualizing fMRI data, including BOLD signal and DKI.
 - Constructed a pipeline in MatLab for experimental data processing and analysis which continued to be used at the end of the internship.
- April 2017 – **Wuhan University, National Innovation and Entrepreneurship Training Program.**
- Nov. 2018
- Sponsored by the Ministry of Education of China.
 - Designed and implemented the core algorithm for elevator's movements anomaly detection based on Kalman filter.
 - Developed a comprehensive elevator monitoring system for both anomaly detection and usage pattern analysis.

Industry Experience

- Oct. 2018 – **Horizon Robotics, R&D Intern, Algorithm Research and Development Team.**
- April 2019
- Designed and implemented a pipeline for large-scale evaluation of audio recordings' quality and data selection basing on audio and textual features.
 - Implemented a large-scale audio data processing platform with Hadoop and web-interface.

Publications

- 2020 **MeDAL: Medical Abbreviation Disambiguation Dataset for Natural Language Understanding Pretraining**, *EMNLP 2020 Clinical NLP Workshop*, **Zhi Wen**, Xing Han Lu, Siva Reddy.
Available at <https://www.aclweb.org/anthology/2020.clinicalnlp-1.15/>.
Code and data at <https://github.com/BruceWen120/medal>.
- 2020 **Global Surveillance of COVID-19 by mining news media using a multi-source dynamic embedded topic model**, *11th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics*, Yue Li, Pratheeksha Nair, **Zhi Wen**, Imane Chafi, Anya Okhmatovskaia, Guido Powell, David Buckeridge.
Available at <https://dl.acm.org/doi/10.1145/3388440.3412418>.
- 2020 **Inferring Multimodal Latent Topics from Electronic Health Records**, *Nature Communications*, Yue Li, Pratheeksha Nair, Xing Han Lu, **Zhi Wen**, Yuening Wang, Amir Ardalan Kalantari Dehaghi, Yan Miao, Weiqi Liu, Tamas Ordog, Joanna M. Biernacka, Euijung Ryu, Janet E. Olson, Mark A. Frye, Aihua Liu, Liming Guo, Ariane Marelli, Yuri Ahuja, Jose Davila-Velderrain, Manolis Kellis.
Available at <https://www.nature.com/articles/s41467-020-16378-3>
- 2019 **NeurIPS 2019 Reproducibility Challenge: Controllable Unsupervised Text Attribute Transfer via Editing Entangled Latent Representation**, *NeurIPS 2019 Reproducibility Challenge*, **Zhi Wen**, Shih-Chieh Fuh, Andrei Romascanu.
Available at <https://openreview.net/forum?id=XibbOqrT4q>
- 2018 **Non-invasive Method for Elevator's Movement Monitoring Based on MEMS Sensor and Kalman Filter**, *14th IEEE International Conference on Signal Processing (ICSP)*, **Zhi Wen**, Zihao Fu, Yining Gao, Bishan Wang, Rui Huang, Fan Long, Li Li.
Oral Presentation. Available at <https://ieeexplore.ieee.org/document/8652423>.

Awards

- 2019 – 2020 **Mitacs Globalink Graduate Fellowship**
- 2018 **Wuhan University Outstanding Student**
- 2017 **Interdisciplinary Contest in Modeling – Honorable Mention**
- 2016 **China College Students' Entrepreneurship Competition – Golden Award** *highest award*

Teaching

- Sept. 2020 – **McGill University**, *COMP 550 Natural Language Processing*, Teaching Assistant.
Dec. 2020

Technical Skills

- Advanced Python, PyTorch, MATLAB, Excel VBA
Intermediate Bash, TensorFlow, Hadoop, C/C++, Verilog, L^AT_EX

Languages

- Chinese **Native speaker**
- English **Excellent command** *TOEFL 112, GRE 159 (Verbal) + 170 (Quantitative)*