

Luyao ZHU

CAMPUS:

Yun Nanyuan campus,
Nanyang Technological
University, Singapore

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Science and Engineering (SCSE) Nanyang
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EDUCATION

Ph.D. Candidate in Computer Science, Jan. 2020 - Currently
Nanyang Technological University, 50 Nanyang Ave, Singapore 639798
With a major GPA of 4.58 on a 5 scale

Master of Science in Management Science and Engineering, Sep. 2016 - June 2019
University of Chinese Academy of Sciences, Haidian District, Beijing
Graduated with a major GPA of 87.13 on a 100 scale

**Bachelor of Science in Mathematics, Sep. 2012 - June 2016 &
Bachelor of Science in Finance, Sep. 2012 - June 2016**

(Joint established with Chinese Academy of Sciences) China University of
Political Science and Law, Changping District, Beijing
Graduated Magna Cum Laude with a GPA of 88.92 on a 100 scale (Rank: 4/50, Overall GPA: 88.92/100,
Major GPA: 89.1)

RESEARCH INTEREST

Persona-based Dialogue Generation, Relation Triplet Extraction, Word Embedding, Stock Price Prediction,
Conversational Sentiment Analysis

PROFESSIONAL EXPERIENCE

Research Assistant, Agency for Science, Technology and Research, Singapore, Jan. 2020 – Present

- ♦ Human-Robot Collaborative AI for Advanced Manufacturing and Engineering (AME) WP4: Commonsense Knowledge

Research Assistant, Sep. 2017 – June 2019

Key Laboratory of Big Data Mining and Knowledge Management, Chinese Academy of Sciences, Beijing, China

- ♦ Assist professors in concluding report of the research project supported by the National Natural Science Foundation of China No. 91546201, No. 71331005 and No.71110107026 related to Data Mining and Machine Learning

Research Internship, Computational Intelligence Lab, School of Computer Science and Engineering, Nanyang Technological University, Singapore, Aug. 2018 – Nov. 2018

- ♦ Stock trading rule discovery with double deep Q-network
- ♦ Tourism reviews sentiment analysis (Under the supervision of Prof. Erik Cambria)

Data Mining Internship, Key Laboratory of Big Data Mining and Knowledge Management, Chinese Academy of Sciences, Beijing, China, Aug. 2015 – Aug. 2016

- ♦ Assist in application and research of the research project in terms of tourism online travel user reviews, electric-power industry, spallation neutron source, etc.

TEACHING EXPERIENCE

- Introduction to Data Science and Artificial Intelligence
- Artificial Intelligence
- Data Structure and Algorithm

ACTIVITIES

- Invited Participant, the *5th International Conference on Information Technology and Quantitative Management (ITQM 2017)*, New Delhi, India, December 2017
- Invited Participant, *4th IEEE International Conference on Industrial Economics System and Industrial Security Engineering (IEIS' 2017)*, Kyoto, Japan, July 2017
- Invited Participant, Computational Finance and Business Intelligence (CFBI 2017) Workshop on *International Conference on Computational Science (ICCS 2017)*, Zurich, Switzerland, June 2017
- Invited Participant, the *4th International Conference on Data Science (ICDS 2017)*, Shanghai, China, May 2017
- Volunteer, *International Conference on Computational Science (ICCS 2018)*, Wuxi, China, June 2018.

PROGRAM COMMITTEES

The 18th International Conference on Computational Science (ICCS 2018) (conference affairs committee)

REVIEWER

- IEEE Transactions on Neural Networks and Learning Systems, Knowledge-Based Systems, Information Fusion, Applied Soft Computing, Neurocomputing, Communications of the ACM, Cognitive Computation, IEEE Computational Intelligence Magazine, **SCI**
- ACL, EMNLP, COLING, **Conference**

PUBLICATIONS

Journal Articles

- J1. **Zhu L.**, Li W., Shi Y., Guo K. SentiVec: learning sentiment-context vector via kernel optimization function for sentiment analysis. *IEEE Transactions on Neural Networks and Learning Systems*. 2020 Jul 16;32(6):2561-72. (**SCI**, IF 14.26)
- J2. **Zhu L.**, Li W., Mao R., Cambria E. HIPPL: Hierarchical Intent-inferring Pointer Network with Pseudo Labeling for Consistent Persona-driven Dialogue Generation (**SCI**, Under review at *IEEE Computational Intelligence Magazine*, IF 9.809)
- J3. Shi Y., Li W., **Zhu L.***, Guo K., Cambria E. Stock trading rule discovery with double deep Q-network. *Applied Soft Computing*. 2021 Aug 1;107:107320. (**SCI**, Corresponding author, IF 8.263)
- J4. Li W., **Zhu L.**, Cambria E. Taylor's theorem: A new perspective for neural tensor networks. *Knowledge-Based Systems*. 2021 Sep 27;228:107258. (**SCI**, IF 8.139)
- J5. Li W., **Zhu L.***, Shi Y., Guo K. and Cambria E, 2020. User reviews: Sentiment analysis using lexicon integrated two-channel CNN-LSTM family models. *Applied Soft Computing*, p.106435. (**SCI**, Corresponding author, IF 5.472)
- J6. Shi Y., **Zhu L.**, Li W., Guo K. and Zheng, Y., 2019. Survey on classic and latest textual sentiment analysis articles and techniques. *International Journal of Information Technology & Decision Making*, 18(04), pp.1243-1287. (**SCI**, IF 3.508)
- J7. Li W., Guo K., Shi Y., **Zhu L.** and Zheng, Y., 2018. DWWP: Domain-specific New Words Detection and Word Propagation System for Sentiment analysis in the Tourism Domain[J]. *Knowledge-Based Systems*, 2018. (**SCI**, IF 8.139)
- J8. Li, W., **Zhu, L.**, Guo, K., Shi, Y. and Zheng, Y., 2018. Build a tourism-specific sentiment lexicon via word2vec. *Annals of Data Science*, 5(1), pp.1-7.
- J9. Li, W., Li, Y., Pandelea V., Ge M., **Zhu L.** and Cambria E, 2022. ECPEC: Emotion-Cause Pair Extraction in Conversations[J]. *IEEE Transactions on Affective Computing*. (**SCI**, IF 13.99)

Conference Articles

- C1. **Zhu L.**, Li W., Mao R., Pandelea V., Cambria E. PAED: Persona Attribute Extraction in Dialogues (Submitted to ACL)
- C2. **Zhu L.**, Li W., Guo K., Shi Y. and Zheng Y. (2017). The Tourism-Specific Sentiment Vector Construction Based on Kernel Optimization Function. *Procedia computer science*, 122, 1162-1167. (ITQM2017 Best paper, EI)
- C3. Li W., **Zhu L.**, Mao R., Cambria E. SKIER: A Symbolic Knowledge Integrated Model for Conversational Emotion Recognition. (Accepted by AAAI 2023)
- C4. Li W., Guo K., Shi Y., **Zhu L.**, and Zheng Y. (2017) Improved New Word Detection Method Used in Tourism Field[J]. *Procedia Computer Science*, 2017, 108:1251-1260. (ICCS2017, EI)
- C5. Shi Y., Zheng Y., Guo K., **Zhu L.**, Qu Y. (2018). Intrinsic or extrinsic evaluation: An overview of word embedding evaluation. 2018 IEEE international conference on data mining workshops (ICDMW), 1255-1262. (ICDMW2018, EI)
- C6. Zheng Y., Shi Y., Guo K., Li W., and **Zhu L.** (2017, July). Enhanced word embedding with multiple prototypes. In *Industrial Economics System and Industrial Security Engineering (IEIS'2017)*, 2017 4th International Conference on (pp. 1-5). IEEE. (IEIS2017, EI)
- C7. Shi Y., Zheng Y., Guo K., Li W., and **Zhu L.** (2018, June). Word Similarity Fails in Multiple Sense Word Embedding. In *International Conference on Computational Science* (pp. 489-498). Springer, Cham. (ICCS 2018, EI)