

**CAMPUS:**

Yun Nanyuan campus,  
Nanyang Technological  
University, Singapore

# Luyao ZHU

Computational Intelligence Lab, School of Computer  
Science and Engineering, Nanyang Technological University,  
50 Nanyang Ave, Singapore 639798

**PERMANENT:**

Email: [luyao001@e.ntu.edu.sg](mailto:luyao001@e.ntu.edu.sg)  
Persona Website: <https://cyn7hia.github.io>

**EDUCATION****Ph.D. Candidate in Computer Science,**

Nanyang Technological University, 50 Nanyang Ave, Singapore 639798  
With a major GPA of 4.58 on a 5 scale

**Jan. 2020 - Currently****Master of Science in Management Science and Engineering,**

University of Chinese Academy of Sciences, Haidian District, Beijing  
Graduated with a major GPA of 87.13 on a 100 scale

**Sep. 2016 - June 2019****Bachelor of Science in Mathematics,****Bachelor of Science in Finance,**

(Joint established with Chinese Academy of Sciences) China University of  
Political Science and Law, Changping District, Beijing

Outstanding graduate with a GPA of 88.92 on a 100 scale (Rank: 4/50, Overall GPA: 88.92/100, Major GPA: 89.1)

**Sep. 2012 - June 2016****Sep. 2012 - June 2016****RESEARCH INTEREST**

Persona-based Dialogue Generation, Relation Triplet Extraction, Zero-Shot Learning, Semi-Supervised Learning, Word Embedding, Stock Price Prediction, Conversational Sentiment Analysis

**PROFESSIONAL EXPERIENCE****Research Assistant****Agency for Science, Technology and Research, Singapore****Jan. 2020 – Currently**

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

**Research Assistant****Key Laboratory of Big Data Mining and Knowledge Management, Chinese Academy of Sciences, Beijing, China****Sep. 2017 – June 2019**

- 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

**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****[Lab session] Introduction to Data Science and Artificial Intelligences****2021**

- Mentoring undergraduate students in Lab class and quiz session relevant to sorting, graphs, dynamic programming, etc.

**[Lab session] Artificial Intelligence****2020**

- Mentoring undergraduate students in Lab class and quiz session relevant to reinforcement learning, depth-

first search, breadth-first search, logic programming, chatbot, etc.

### [Lab session] Algorithm Design and Analysis

2020

- Mentoring undergraduate students in Lab class and quiz session relevant to statistics, linear regression, classification trees, clustering algorithms, etc.

### HONORS and AWARDS

- Excellent Student Award University of Chinese Academy of Sciences Sep. 2018
- Best Paper Award in *ITQM 2017* Dec. 2017
- Academic Scholarship of University of Chinese Academy of Sciences Sep. 2018, 2017, 2016
- Chinese Academy of Sciences Excellent Undergraduate Scholarship Jan. 2016, 2015, 2014
- Outstanding Graduate June 2016
- Team Competition Winning Honor Sep. 2015
- The Third Grade Scholarship of China University of Political Science and Law Sep. 2015
- Meritorious Winner of Mathematical Contest in Modeling (MCM) Apr. 2015
- The 2<sup>nd</sup>-national level in CUMCM-2014 for college students Nov. 2014
- The Second Grade Scholarship of China University of Political Science and Law Sep. 2014, 2013
- Excellent Student Award of China University of Political Science and Law Sep. 2013

### ACTIVITIES

- Invited Participant, the *5th International Conference on Information Technology and Quantitative Management (ITQM 2017)*, New Delhi, India Dec. 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 *4<sup>th</sup> 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 18<sup>th</sup> International Conference on Computational Science (ICCS 2018) (conference affairs committee)

### REVIEWER

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