Yingjie Liu

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Address: No.39 Wangjing North Road, Chaoyang District, Beijing City, China
Research Area: Cognitive Diagnosis, Temporal Knowledge Tracing and Learning Prediction

Personal Information

Gender: female **D.O.B:** Oct. 31, 1996 **Nationality:** P.R. China

Education Background

2018.09-2021.07 **Northeastern University**
Master of Engineering degree in Computer Application Technology. GPA: 3.31 / 4.0.

2014.09-2018.07 **ShanXi Normal University**
Bachelor of Science degree in Computer Science. GPA: 3.38 / 4.0.

Publications and Paper

- ***New Development of a Cognitive Diagnosis Model*** Yingjie LIU, Tiancheng ZHANG, Xuecen WANG, Ge YU, Tao LI. New development of cognitive diagnosis models. Front. Comput. Sci., 2023, 17(1): 171604 https://doi.org/10.1007/s11704-022-1128-3 (**sci accepted - link**)
- ***Evaluation of Quality of Interaction in Online Learning Based on Representation Learning ,*** Xuecen, W., Yu, Z., Yingjie, L., & Ge, Y. (2021). Evaluation of quality of interaction in online learning based on representation learning. Computer Science, 48(2), 207-211.(**published by Computer Science - link**)
- ***Research on Knowledge Proficiency Calculation Method Based on Bloom's Cognitive Theory*** (**thesis for master's degree - link**)

Research Experiences

2019.04–2021.07 **Research on the Construction of Personalized Learning Environment Based on Big Data**

Description: I participated in the National Natural Science Foundation of China: Research on the Construction of Personalized Learning Environment Based on Big Data.

- **Goal**: Use the educational big data of the observable response generated in the learning process to reverse the learner's unobservable learning cognitive proficiency data, strengthen the accuracy of personalized guidance.
- **Contribution**: Proposed a computational model of knowledge proficiency based on Bloom's cognitive theory, BloomCDM. The core of the modeling phase is to consider hierarchical priors including "Remember", " Comprehension" and " Application", and the objective function of the model is determined to calculate the characteristic of students and questions. In order to abstract the mathematical expression of " Comprehension" and " Application", the concept of "knowledge group" and "higher-order knowledge group" were also pioneered to improve the representation of educational theory in computational science.

2020.11 – 2020.12 **Elementary school math problem solving automatically**

Description: We participated in the CCF Big Data and Computational Intelligence Competition in 2020, and won the second prize in the Tipaipai track.

- **Goal**: Competition selected primary math grades 1-6 in-school questions as training and prediction data. The model read an application problem and outputs the result of the problem.
- **Contribution**: The model accuracy was optimized by pre-training model optimization and data cleaning. A lot of work has been done on data cleaning because there was a lot of noise in the original data, such as the question index in the question, two questions in one sentence and the confusion of Chinese numbers and English numbers, etc.

2019.05 – 2019.07 **Zte Moon Algorithm Competition**

Description: I participated in the deep learning circuit of the Moon Algorithm Competition held by ZTE in 2019, and finally won the regional winning award.

- **Goal**: Without limiting the optimization method, this task is to output a new network model for a given deep convolutional network without deep convolutional network tuning training, so as to reduce the model size, reduce the resource occupation of

operating devices and improve the running speed.

- **Contribution**: Through layer fusion, the idle and invalid filter was cleared, and layer fusion technology was used to improve the operation effect.

Work Experiences

2021.07-2022.07 Quality Assurance Engineer, Meituan, China

Responsibilities:

- Full-time job for the testing work of the Marketing department of Meituan and responsible for the server testing of the hotel and tourism business lines.
- Designed marketing campaign generation code and interface automation code using java.
- Responsible for continuous improvement the stability and success rate of the test and production environment.
- Performed complex analyses of issues, avoided capital loss and managed escalations of issues.

Skills

- A good command of programming.
- Good team work ability.
- Strong data statistics and analysis skills in industry and academia.
- Passion for educational technology.

Award & Honors & Certificate

During master study:

- 2020, won the 2rd prize in CCF Big Data and Computational Intelligence Competition.
- 2020, won the second-class academic scholarship of Northeastern University.
- 2019, won the regional Winning Prize (TOP20) in ZTE Moon Algorithm Competition.
- 2018, 2019 won the first-class academic scholarship of Northeastern University twice.

During undergraduate study:

- 2017, got graduate admission qualifications.
- 2017, obtained high school Information technology teacher qualification certificate.