

Wanshui LI

E-Mail: liwanshui12138@gmail.com | Website: <https://wesley12138.github.io>

LinkedIn: [linkedin.com/in/wanshui-wesley-li-a4740318b](https://www.linkedin.com/in/wanshui-wesley-li-a4740318b)

EDUCATION

- 09/2019-09/2020 **University College London**
Master of Science – MS Computational statistics and machine learning, Distinction
Main Modules: Statistical Natural Language Processing, Supervised Learning, Probabilistic and Unsupervised Learning (Gatsby PhD programme), Approximate Inference and Learning in Probabilistic Models (Gatsby PhD programme), Applied Machine Learning, Reinforcement Learning (Taught by Google DeepMind)
- 09/2015-06/2019 **Beijing Normal University-Hong Kong Baptist University United International College (UIC)**
Bachelor of Science (Honours) in Statistics
GPA 3.6/4.0, First Class, Ranking 2nd in the Department of Statistics

RESEARCH EXPERIENCE

- 05/2020-09/2020 **Differentiable Reasoning over Long Stories**
— Assessing Systematic Generalisation in Neural Models
Supervisor: Dr Pasquale Minervini, Senior Research Fellow in the NLP group, UCL
Prof. Sebastian Riedel, Professor in the NLP group, UCL
- Contemporary neural networks have achieved a series of developments and successes in many aspects; however, when exposed to data outside the training distribution, they may fail to predict correct answers. We were concerned about this generalisation issue and thus analysed a broad set of models systematically and robustly over long stories.
 - In order to handle the multi-relational story graph, we consider two classes of neural models: the graph-based models that can process graph-structured data; and sequence-based models, which can process linearized version of the graphs.
 - We found that the modified recurrent neural network yield surprisingly accurate results across every systematic generalisation task which outperform the modified graph neural network, while the latter produced more robust models.
 - Due to the need for structured data, we explored information extraction skill with two systems: the Stanford Open Information Extraction (OpenIE) system and the Minimising Facts in Open Information Extraction (MinIE) system.
 - For accompanying code, see: <https://github.com/Wesley12138/clutr-baselines>

PUBLICATION

[1] Li, W., Wang, X., & Feng, Q. (2021, March). *Final Prediction of Product Quality in Batch Process based on Bidirectional Neural Network Algorithm*. In IOP Conference Series: Earth and Environmental Science (Vol. 692, No. 3, p. 032091). IOP Publishing.

- There is a huge amount of alarm information in the secondary equipment of the power system; however, most of them are useless information and interference information, which caused a lot of trouble to accurately find the correct alarm information.
- Due to the low efficiency and bad accuracy of the commonly used manual experience screening method, we built up the LSTM deep learning NLP network screening model, which greatly improved the performance of alarm information screening, and can accurately locate specific alarm signals.

[2] Li, W., Liu, Y., & Jiang, W. (2021, Feb). *Research on the Method of Screening Alarm Information of Secondary Equipment in Power System Based on Deep Learning NLP Technology*. Basic & Clinical Pharmacology & Toxicology, 128(S1), 89–90. (Impact factor: 2.651)

- Based on the analysis of time series characteristics of the production process on common batch process endpoint quality prediction, a predictive model with bidirectional gated loop neural network is proposed to predict final product quality for unequal interval batch processes.
- Based on the requirement of forecasting value in actual production, loss function adapted to batch process is constructed, which makes model meet forecasting requirement under guaranteed prediction precision, thus obtaining greater production benefit.
- Compared with MPLS, SVR and GRU algorithms, the BiGRU model-based batch process product quality prediction method achieves better prediction results than the traditional algorithm, which verifies that the bidirectional gated circulation unit neural network has better prediction ability for industrial batch process data.

INTERNSHIP

2017-2019	Student Helper of E-learning, Information Technology Services Centre (ITSC) <ul style="list-style-type: none"> ➤ Responsible for shooting films, taking pictures at major events and activities and editing videos ➤ Proficient in Panopto and taught school teachers how to use it
08/2016	Intern, China Everbright Bank, Guangzhou <ul style="list-style-type: none"> ➤ Assisted customers accomplish various transactions, including filling forms, printing bankbooks, activating credit cards and opening internet banking and mobile banking through automatic systems such as ATMs, CRS and automatic pay stations ➤ Introduced financial products such as securities, funds and insurance to customers ➤ Participated in marketing efforts and assisted customers in completing their business

ACTIVITIES

2015-2018	Vice President, UIC Alumni Association <ul style="list-style-type: none"> ➤ Cooperated with the alumni affairs group of the Four-Point Education Coordination Office to complete the designated tasks ➤ Responsible for planning plenty of school activities ➤ Organized alumni and activity information ➤ Assigned tasks to club members and trained them in the planning of activities
-----------	---

HONORS & AWARDS

2019	Silver Award of Servant Leadership, Student Affairs Office, UIC Outstanding Research Project Award, UIC
2018	Meritorious Winner, Mathematical Contest in Modeling (MCM)
2017	First Prize of Guangdong Province, Second Prize of the Nation, China Undergraduate Mathematical Contest in Modeling (CUMCM)
2016-2019	One-time First-Class Scholarship, two times Second-Class Scholarship, UIC

OTHERS

Language Proficiency: Mandarin and Cantonese (Native languages); English (IELTS BAND 6.5, PTE 74)

IT Skills: Python, MATLAB, R, PyTorch, MySQL, etc.