

# XUEJIAN WANG

(+1) 412-251-1130  $\diamond$  xuejianwang.com  $\diamond$  xuejianw@andrew.cmu.edu

## RESEARCH INTERESTS

---

The broad areas of machine learning including deep learning, reinforcement learning and applications in various domains such as recommender systems and network embeddings. In general:

- Mining underlying patterns of human interaction and behaviors
- Designing efficient and effective learning algorithms to solve real-world problems

## EDUCATION

---

**Carnegie Mellon University**

**Pittsburgh, USA**

- Joint PhD in Machine Learning and Public Policy

Sep. 2018 - Present

**Shanghai Jiao Tong University (SJTU)**

**Shanghai, China**

B.S in Information Security

Sep. 2014 - Jun. 2018

- Research Assistant, APEX Data & Knowledge Management Lab
- Advisor: Prof. Weinan Zhang, Prof. Yong Yu and Prof. Jun Wang (University College London)

## PUBLICATIONS

---

**Large-scale Interactive Recommendation with Tree-structured Policy Gradient**

- Haokun Chen, Xinyi Dai, Weinan Zhang, Han Cai, **Xuejian Wang**, Ruiming Tang, Yuzhou Zhang, Yong Yu
- In *Proceedings of the 33rd AAAI Conference on Artificial Intelligence (AAAI-19)*. **AAAI, 2019**

**Neural link prediction over aligned networks**

- Xuezhi Cao, Haokun Chen, **Xuejian Wang**, Weinan Zhang, and Yong Yu.
- In *Proceedings of the 32nd AAAI Conference on Artificial Intelligence (AAAI-18)*. **AAAI, 2018**

**Dynamic attention deep model for article recommendation by learning human editors' demonstration**

- **Xuejian Wang\***, Lantao Yu\*(equal contribution), Kan Ren, Guanyu Tao, Weinan Zhang, Yong Yu, Jun Wang.
- In *Proceedings of the 23rd ACM SIGKDD International Conference on Knowledge Discovery and Data Mining. KDD 2017*

## RESEARCH EXPERIENCES

---

**Personalized Article Recommendation**

Sep. 2017 - Dec. 2017

Advisor: Prof. Weinan Zhang

APEX Data & Knowledge Management Lab, SJTU

- This study focuses on recommending most relevant textual advertisements to users to maximize the Click-Through-Rate, in which the major challenge is how to match user interests with proper articles
- Employing hierarchical attention mechanism to obtain article embeddings and construct user interests

**Neural Link Prediction over Aligned Networks**

Aug. 2017 - Sep. 2017

Advisor: Prof. Yong Yu

APEX Data & Knowledge Management Lab, SJTU

- Implemented baseline *LINE: Large-scale Information Network Embedding* in Tensorflow for comparison and tuned parameters to best performance
- Revised the whole paper for 3 times and contributed over 100 submits
- Surveyed papers about social networks and extended the idea of two aligned networks to multi-aligned networks which we left as future work

## Dynamic Attention Deep Model for Article Recommendation by Learning Human Editors' Demonstration

Oct. 2016 - Feb. 2017

Advisor: Prof. Weinan Zhang

APEX Data & Knowledge Management Lab, SJTU

- Built a text classification network to model the editors' underlying criterion varied with many factors such as time, current affairs, etc., for a famous Chinese media website
- Employed attention mechanism to address data drift problem, resulting in more robust and stable predictions
- Proposed a Dynamic Attention Deep Model (DADM) which outperformed other baselines in an A/B test
- Our paper was accepted to KDD 2017 and the proposed DADM model was utilized in practical cases, automating the quality article selection process to alleviate the editors' working load

## PROFESSIONAL ACTIVITIES

### Review Activities

CIKM 2017, WSDM 2018, AAAI 2018, SIGIR 2018

- Gave reviews for paper submissions in relevant domains for reference, which were mostly adopted
- Learnt how to evaluate academic papers from a reviewer perspective and developed tastes for papers

## INTERNSHIP EXPERIENCE

### ULU Technologies Inc.

Nov. 2016 - Feb. 2017

R&D Engineer Intern

- Developed a practical algorithm for article recommendation which is used in production
- Improved coding ability, learned how to independently conduct experiments and developed communication skills

## HONORS & AWARDS

### KDD Student Travel Award

2017

- A glorious recognition to KDD attendees awarded by ACM KDD

### Rongchang Science and Technology Innovation Scholarship (Nomination)

2017

- Top 30 undergraduate scholars in Shanghai Jiao Tong University

### Shanghai Jiao Tong University Excellent Scholarship

2017&2016

- Awarded to students for their excellent academic performance

### Shanghai Jiao Tong University Excellent Student Award (Top 5%)

2017&2016

- Awarded to top 5% students for comprehensive performance, selected by peers

### Second Prize, China Undergraduate Mathematical Contest in Modeling 2016, Shanghai

2016

### Second Prize, "Data Bang" Data Innovation Contest (Top 2)

2015

## SKILLS

### Machine Learning:

Tensorflow, Scikit-Learn, XGBoost, Keras

### Programming Languages:

Python, MATLAB, C++, R, Verilog and L<sup>A</sup>T<sub>E</sub>X

### Standard Tests:

TOEFL: 104 (R26, L27, S22, W29) , GRE: V153, Q170, W3.5

## LEADERSHIP & EXTRACURRICULAR ACTIVITIES

### Student Union of School

May 2015 - May 2016

Minister of Publicity Department

### Student Union of SJTU

Nov. 2015 - Feb. 2016

Minister of Communication Department of the Committee

### Outstanding Volunteers

Shanghai International Marathon (2014&2016), SJTU 120<sup>th</sup> Anniversary