

# Xiao Wang – Curriculum Vitae

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**Mobile Phone** +(86) 18810924196  
**Email** wangxiaosandy@pku.edu.cn  
**Address** No.5 Yiheyuan Road,  
Haidian District  
Beijing, China 100871

## Education

### 2017-2020 Peking University

- **M.S. in Data Science**
- Cumulative GPA: 3.34/4.0
- Major courses: Machine Learning, Deep Learning, Algorithms for Big Data Analysis
- Conducted projects using machine learning and deep learning methods for academic or industrial purposes

### 2019/7 France Excellence Summer School

- The Data Science for Document Analysis and Understanding summer program was organized in Inria(Paris) and The University of La Rochelle
- Learned knowledge about natural language processing

### 2013-2017 Minzu University of China

- **B.S. in Statistics**
- Cumulative GPA: 93 / 100
- Major courses: Mathematical Analysis, Advanced Algebra, Probability Theory, Applied Mathematical Statistics, Programming Foundations

## Awards and Scholarships

2018-2019	Academic Excellence Award	GPA top 31%
2016-2017	The First Prize Scholarship	GPA top 5%
2015-2016	The First Prize Scholarship	GPA top 5%
2015 / 9	First Prize in Mathematics Modeling Contest of Beijing	top 10%
2014-2015	National Scholarship	GPA top 5%
2013-2014	National Scholarship	GPA top 5%

## Publication

1.Junyu Liu, Xiao Wang, Yan Zhao, Bin Dong, Kuan Lu, Ranran Wang. "Heating Load Forecasting for Combined Heat and Power Plants via Strand-Based LSTM". IEEE Access. 2019. (submitted)

## Projects and Research

### 2018/9 - 2019/5 Heating load forecasting

Main member, in cooperation with Electric Power Academy of Shandong Province in China

- My tasks were to analyze data, clean and pre-process data, and then make model selection and design the structure of the neural network.
- The project was aimed at proposing a model for short-term heat load forecasting to guide heating operation management and dispatching. The recorded weather and heating load data were provided by Electric Power Academy of Shandong Province in China.
- We proposed a model based on a properly designed strand-based long short-term memory (LSTM) recurrent neural network. To improve the model's performance, we introduced proper smoothing and local scaling to pre-process data and use ensemble methods to make model robust.
- The model was implemented on an online system of a power plant in Shandong province, China. The model reported satisfactory online testing results that were better than their previous model.

### 2018/5-2018/8 Music generation

Team leader, project work in deep learning course

- My tasks were to make schedules, use word embedding to encode the notes, and then design and train the network.
- The project was designed to generate some pieces of music of the same style of Jay Chou, one famous Chinese musician. A model was expected to learn from all pieces of music of Jay and generate new piece of music.
- We collected the notions of Jay's music as the data set from Internet, and saw all notions as sequences of notes. Then we designed a long short-term memory (LSTM) recurrent neural network to learn the dependency of notes.
- The model was trained on the data set. Given a specified input and a fixed length, the model can output a sequence of notes, which is one piece of music of the same style as Jay's music. This project got excellent score (90-94 for rank A-) in the deep learning course.

## Skills

### ■ Programming Languages

Proficient in Python

Some knowledge in C++, R, Matlab

### ■ Language

IELTS: 7.0 (R/L/S/W: 8.5/7.5/5.5/6.5)

GRE: 322 (Q/V/AW: 170/152/3.5)

## Interests

### ■ Data science, Machine learning, Deep learning

## Referees

**Name** Bin Dong  
**Position** associate professor  
**Address** BICMR,77101  
No.5 Yihe Road  
Haidian District  
Beijing,China 100871  
**Contact** dongbin@math.pku.edu.cn

**Name** Ciwen Xu  
**Position** professor  
**Address** Science and Engineering Building,816-2  
No.27 Zhongguancun South Street  
Haidian District  
Beijing,China 100081  
**Contact** xuciwen@muc.edu.cn