

# Taiyi Wang

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Add: Apt 1047, 47 Eddington Ave, Cambridge, Cambridgeshire, UK

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## ▪ Education Background

**School of Physics, Peking University**

**Major:** Physics;

**Degree:** Bachelor of Science, minor in math;

**Grade:** Top 15%

**Beijing, China**

**09/2015 - 07/2019**

**Visiting Scholar, Center for Urban Science + Progress (CUSP) and Big Data Interaction (BDI) Lab, NYU, USA**

**Project:** Simulating Taxi Ride Sharing at Scale

**Instructor:** Prof. Huy T. Vo

**06/2018 - 10/2018**

**Department of Computer Science, Johns Hopkins University**

**Major:** Data Intensive & Machine Learning Group ;

**Degree:** Master of Science and Engineering

**Grade:** Top 1, GPA 4.0

**Baltimore, USA**

**12/2019 - 06/2021**

**Department of Computer Science and Technology, University of Cambridge**

**Major:** System & Machine Learning Group ;

**Degree:** Doctor of Philosophy in Computer Science

**Cambridge, UK**

**09/2021 - Present**

## ▪ Publications & Papers

- ❖ Ali Hadian, Behzad Ghaffari, Taiyi Wang (3rd) and Thomas Heinis. "COAX: Correlation-Aware Indexing on Multidimensional Data with Soft Functional Dependencies" *24th International Conference on Extending Database Technology (EDBT), 2021 (Submission)*
- Making theoretical proof of efficiency of Soft Functional Dependencies, a ML-enhanced indexing system.
  
- ❖ Wang, Taiyi (1st), Shi, Jiahao, "Solving Maximal Stable Set problem via Deep Reinforcement Learning." *2020 International Conference on Communication Technology, Computational Engineering and Artificial Intelligence, 2020 (Accepted)*
- Solving NP-hard combinatorial problems via Deep Reinforcement Learning. Comparing with other methods to illustrate the effectiveness of Deep-RL
  
- ❖ Wang, Taiyi (1st), Yajun Fang, and Berthold KP Horn. "Why do we need bilateral control?-in view of energy consumption." *2018 4th International Conference on Universal Village (UV)*. IEEE, 2018.
- Building an inclusive simulation platform and working out an effective way to calculate the energy consumption, showing the advantages brought by the new bilateral control system.
  
- ❖ Wang, Taiyi (1st), Dang, Zhibo. "To simulate the future of Language." *Mathematical Contest in Modeling, COMAP, 2018*
- To predict and simulate the global distribution of language in next 50 years/100 years Based on statistical records and free-immigration models
  
- ❖ Wang, Taiyi (1st), Fu, Zuntao "Regional Studies on low-frequency variations in DTR." *Graduation thesis, Department of Atmospheric and Oceanic Sciences, School of Physics, Peking University, 2019*
- Analysis of regional differences on variations of DTR time series

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## ▪ Internship Experience

- **Research and Development Engineer, Baidu, Beijing** 09/2018 - 11/2018
- **Research and Development Engineer, Sohu.com Ltd, Beijing** 09/2018 - 11/2018
- **Intern actuary, the People's Insurance Company of China Limited (PICC), Beijing** 08/2017 - 09/2017
- **Intern Project Manager, China Securities Co. Ltd, Beijing** 06/2017 - 08/2017

## ▪ Research Experience

### **Research Internship, SCALE Lab, Imperial College London**

Project: Leveraging Soft Functional Dependencies for Indexing Multi-dimensional Data. 05/2020 - 10/2020

Instructor: Prof. Thomas Heinis

### **Research Assistant, Computer Science and Health Care Center, the Johns Hopkins University**

Project: In-Patient Therapy Analytics

01/2020 – 05/2020

Instructor: Prof. Anton Dahbura

### **Visiting Scholar, Center for Urban Science + Progress (CUSP) and Big Data Interaction (BDI) Lab, NYU**

Project: Simulating Taxi Ride Sharing at Scale

06/2018 - 10/2018

Instructor: Prof. Huy T. Vo

### **Research Assistant, Intelligent Transportation Research Center, EECS, MIT**

Project 1 : Bilateral Control and suppressing traffic flow instabilities

02/2018 - 06/2018

Instructor: Prof. Berthold K.P. Horn, Dr. Yajun Fang

Project 2: Road Safety Development in the ASEAN Region

01/2018 - 03/2018

Instructor: Dr. Yajun Fang, Faan Chen

### **Research Assistant, Center for Data Science Peking University**

04/2019 - 08/2019

Project: Building Reinforcement Learning Platform/Simulator

Instructor: Prof. Weinan E (Princeton), Zaiwen Wen (BICMR)

## ▪ Courses preparation

- **CS: Reinforcement Learning, Machine Learning, Data Science, Algorithms**
- **Math: Statistical Methods, Stochastic process, Time Series**
- **Physics: All courses required in Physics major, Control system**

## ▪ Extracurricular Activities

- **Director of Debating Center, Committee of School of Physics, Peking University** 03/2017 – 03/2018
- **Co-organizer, Students' International Communication Association (SICA), Peking University** 07/2016
- **Long-term volunteering activities: funding a girl in poor area to complete education** 07/2015 – Present

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## ▪ Honors & Awards

- **Finalist (F Awards, Top 1%), Mathematical Contest in Modeling (MCM)** **04/2018**
- **Excellent Graduate Student Award in School of Physics, Peking University** **06/2019**
- **Excellent Graduation thesis** **06/2019**
- Special Award (top 10%), the 5th Youth Physical Tournament, Peking University 05/2016
- Third Prize (top 30%), Freshman Scholarship, Peking University 09/2015

## ▪ Skills & Interests

- Coding: Office; LaTeX; Markdown; C++; R; MATLAB; Python; SQL, Hive, Hadoop
- Hobbies: Running; Travel; Swimming; Tennis
- TOEFL: 108
- GRE: 170(Q)+159(V)+4.0(AW)