

# (Sherilyn) Shiyin WANG

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## Computer Science Undergraduate in Tsinghua Yao Class 2020

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## RESEARCH EXPERIENCE

### Biological Network Analysis 🐍

**Advisor: Russ B. Altman, Helix Group in Stanford University**

📅 Jul 2019 – Aug 2019 📍 CA, USA

- Reviewed the usage of protein-protein interaction networks from a biologists' perspective
- Also worked on drug synergy prediction by few-shot learning approach

### Disentangle Private Information from Edge-Cloud Training 🐍

**Advisor: Song Han, HanLab, Massachusetts Institute of Technology(MIT)**

📅 Feb 2019 – May 2019 📍 MA, USA

- Designed a differential privacy guaranteed framework for edge-cloud training with theory
- Analyzed the trade-off between performance and privacy

### Complementary Learning for Named Entity Recognition 🐍

**Advisor: Jiawei Han, Data Mining Group, University of Illinois at Urbana-Champaign(UIUC)**

📅 July 2018 - Sep 2018 📍 IL, USA

- Named entity recognition on biological domain aggregating partially labeled datasets
- Helped to improve the Set Search+ Oxygen demo for KDD 2018

### Fast Top-k Area Topics Extraction with Knowledge Base

**Advisor: Jie Tang, Data Engineering Group, Tsinghua University**

📅 Jun 2017 – Sep 2017 📍 Beijing, China

- Proc. IEEE DSC 2018 (<https://arxiv.org/abs/1710.04822>)
- Crawled data from Wikipedia and modeled relationships between categories
- Proposed a method to solve inaccurate data source problem innovatively

## PROJECT EXPERIENCE

### Computational Analysis of Chinese Government Reports

**Advisor: Xiao Tang, School of Public Policy and Management, Tsinghua University**

📅 Sep 2018 – Jan 2019 📍 Beijing, China

- Crawled and constructed a dataset of 13148 government annual reports
- Mined, constructed, and validated a hierarchical structural organization of the reports
- Refined LDA model to extract topics from texts and improved the algorithm efficiency

### Restaurant Management Application 🐍

**Database Course Project in Tsinghua University**

📅 Nov 2018 – Dec 2018 📍 Beijing, China

- Full-stack web application: HTML/CSS + Python Flask + Oracle

### Emergency Room Efficiency, Effectiveness, and Accessibility 🐍

**MIT Policy Hackathon Organized by MIT IDSS**

📅 Apr 2019 📍 MA, USA

- Multi-user desktop application through TCP protocol for the popular "Werewolf" game
- Contributed to all the GUI part and client logic part

### Werewolf Game Software

**Object-Oriented Programming Course Project in Tsinghua University**

📅 May 2017 – Jun 2017 📍 Beijing, China

- Multi-user desktop application through TCP protocol for the "Werewolf" game
- Contributed to all the GUI part and client logic part

## EDUCATION

### Bachelor in Computer Science

**Tsinghua University**

📅 Aug 2016 – Jul 2020

(Yao Class) 39 students advised by Turing Award Laureate Prof. Andrew Chi-Chih Yao, the best Chinese Computer Science undergraduate program

**Core Courses:** Linear Algebra, Data Structure, AI, Database, Numeric Ana., Comp. Bio., Rand. Net. Opt., Advanced Net. Secu., Quan. Econ., Game Theory, Comp. Urban System Regulation

**Overall GPA:** 3.65/4.00 (163 credits)

### Minor in Statistics

**Tsinghua University**

📅 Sep 2017 – Jul 2020

**Core Courses:** Stat. Inference, Multivariate Stat. Ana., Intro. to Data Science, Bayes. Theory

### Special Student Program

**Massachusetts Institute of Technology(MIT)**

📅 Feb 2019 - May 2019

**Courses:** 6.437 Inference and Information (Graduate Level), 6.802 Comp. Bio., 6.045 Automata, Computability, and Complexity, 6.100 EECS Research Project

**Overall GPA:** 5.0/5.0 (48 units)

## AWARDS

### Global Competence Fellow 2019 - 2020

🎓 Tsinghua

First-tier fellowship to 20 elites interested in global issues with adequate knowledge and negotiation skills.

### Stanford UGVR Scholar 2019

🎓 Stanford & Tsinghua

About \$11,600 sponsorship for summer research internship in Bioengineering Department. Only 18 scholars per year are admitted from China.

### Xuetang Scholarship 2016 - 2020

🎓 Tsinghua

Annual 6,000 CNY to each Yao Class students.

### Baidu Scholarship 2017 & 2018

🎓 Tsinghua & Baidu

Scholarship for all-round development and comprehensive excellence.

### TopOpen Research Funding 2018

🎓 Tsinghua

30,000 CNY research funding at UIUC in 2018.

### Mathematical Contest in Modeling Meritorious Winner 2017

🎓 COMAP

Use circuit theories and software to model and optimize the traffic flow in Seattle innovatively.

# WORK EXPERIENCE

## Community Development Officer

Common Future Fund

Apr 2017 - May 2018 Beijing, China

- Exhibitions, reading groups, online classes, and social media accounts
- To raise public awareness, gain social impact, and seek donations

## Interpreter

IP Group

Sep 2018 & Oct 2019 Hong Kong & Shanghai & Beijing, China

- IP Group Deep Tech Forum
- Worked as conference assistant for the CEOs of British startups

## Teaching Assistant for "Algorithmic Economics"

Institute for Interdisciplinary Information Sciences, Tsinghua University

Sep 2019 - Jan 2020 Beijing, China

- Responsible for the data profiling introduction
- Statistics consultant for the course projects

# LEADERSHIP AND ACTIVITIES

## BRICS Youth Forum Delegate

All-China Youth Federation

Aug 2017 Beijing, China

- The highest level of youth official diplomacy
- Negotiated proposal that was submitted to the BRICS Leaders Xiamen Summit

## Field Study in Guiyang about Poverty and Big Data Industry

Guizhou-Cloud Big Data

Feb 2018 Guizhou, China

- Interviewed government leaders and investigated the rural area and big data industry
- Wrote a report to the the director of the Guizhou Big Data Development Administration

## Global South Culture Immersion Program Egypt

The American University in Cairo

Jan 2018 - Feb 2018 New Cairo, Egypt

- Studies two weeks in the American University in Cairo and visited historical sites
- Wrote a report about the Islamization of Egypt in the sixth century

## Sea Turtle Protection Volunteer

World Without Borders

Aug 2017 Galle, Sri Lanka

- Sea turtle protection volunteer in Galle, Sri Lanka
- Field trip around the island about the colonial history

## Student Union

Design Group, CS Department, Tsinghua

Aug 2016 - Present Beijing, China

- Designed posters for student activity
- Designed stage background for students festival

# LIFE PHILOSOPHY

"The future is today."

# STRENGTHS

Bioinformatics

Data Mining

Database

Statistics

Machine Learning

International Relations

Communication

Global Perspective

Leadership


# LANGUAGES

English


Chinese

Español

# SKILLS

 **Data Massive**


As a Computer Science student with a Statistics minor, I can apply models in large scale data with efficient algorithms. Besides the accuracy of algorithms, I have the experiences improving the efficiency, too.

 **Coding**

I am enrolled in Tsinghua Yao Class and won scholarships each year. I am familiar with Python, R, and C++. I am also passionate to learn new programming languages.

 **Open-Minded and Global Experiences**

Instead of just sight-seeing, I talked to the local people around the world. I have been to Nepal, Sri Lanka, Egypt, USA, Turkey during my undergraduate program. I did field study in Guizhou about poverty and big data. Activities like BRICS Youth Forum and IMUSE have provided me a broad view of the global affairs.

 **Communication**

I am a good communicator. I have participated in many international activities, such as international visitor receptions, GSF, IMUSE. During my exchange at MIT, I am active in local events. I took part in BRICS Youth Forum as a Chinese delegate, which gave me the chance to communicate with elites from other BRICS countries. I am learning Spanish now.