

# Terence, Junjie LIU

MPHIL STUDENT | OPEN SOURCE ADVOCATE

2000 Jintong Road, Tangjiawan, Zhuhai, Guangdong Province, China  
BNU-HKBU United International College

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## Education

### Hongkong Baptist University (joint with BNU-HKBU United International College)

Zhuhai & HKSAR, China

MPHIL STUDENT IN MATHEMATICS (PROBABILITY AND STATISTICS)

2021-2023

- Full Scholarship
- Research Interest:
  1. Statistical Inference
  2. Reasoning and Probabilistic Model
  3. Graphical Model and Complex Network
  4. Computational Social Science and Social Network
  5. HPC Structure and Resource Optimization

### Hongkong Baptist University (BNU-HKBU United International College)

Zhuhai, China

BACHELOR OF SCIENCE (HONOURS) IN STATISTICS

2016 – 2020

- Second Class Honours
- Activities, Awards and Societies:
  1. **Co-Funder** and **Core team member** of a CS interest group: UICHCC <https://www.uichcc.com>
  2. USBC Cluster (UIC-Statistics Bayes Cluster) Administrator <https://uicstat.com/wiki>

## Experience

### BNU-HKBU United International College

Zhuhai, China

RESEARCH ASSISTANT UNDER DR. YU-HUI DENG & PROF. HUA-XIONG HUANG'S SUPERVISION

June 2020 - August 2021

- ShanXi Province Stroke Data Analysis
- Diabetic Kidney Disease Data Analysis
- Market & Social Media Sentiment Index
- Implementation of Statistical Model and Deep Neural Network in Financial Data Analysis

LAB MANAGER & SERVER ADMINISTRATOR - DEPARTMENT OF STATISTICS

June 2018 - August 2020

- Built the first high-performance computing cluster: USBC (UIC-STAT Bayes Cluster) in UIC-STAT department
- GitHub link: <https://github.com/Bayes-Cluster>

UNDERGRADUATE STUDENT RESEARCHER UNDER PROF. KANG-TOO TSANG'S SUPERVISION

June 2019 - August 2020

- Asymmetric Cryptography Algorithm Acceleration with Heterogeneous Structure

### Guangzhou IPLOOK Network Technology Co Ltd

Guangzhou, China

MANAGEMENT INTERN; MENTOR: MR. JIAN WANG

June 2020 - August 2020

- Business Data Analytics
- Sales Technique
- Human Resource Management Technique
- Leadership

### Shenzhen Long shun Sheng Electronic Co Ltd

Shenzhen, China

RESEARCH INTERN; MENTOR: MR. ZHIJIANG LIU

May 2018 - August 2018

- Business Data Analytics:
  1. Identifies target customers
  2. Exchange Rate Forecasting
  3. Route Planning in Logistics
  4. Decision Making

## Skills

**Data:** collecting, cleaning, mining, analysis, visualisation

**Programming Language:** Python (intermediate) || R (intermediate) || MATLAB (beginner) || Shell script (intermediate).

**Natural Language:** Chinese (Mandarin & Cantonese) || English with IELTS score 6.5

**Statistical Methods:**

(a) Predictive modelling (regression, time series)

(b) Statistical Inference (Bayesian Approach)

(c) Hypothesis testing and Confidence intervals

**Deep Learning:** Most of the basic Neural Network model (CNN, RNN and its variant). My interest is in interpretability of deep learning and deep probabilistic model.

**Operating Systems:** macOS & Linux & Microsoft Windows

## Selected Publications

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### JOURNAL

1. **Jun-Jie Liu**, Kang-Too Tsang & Yu-Hui Deng (2022) "A variant RSA acceleration with parallelisation" *International Journal of Parallel, Emergent and Distributed Systems* <https://doi.org/10.1080/17445760.2021.2024535>
2. **LIU, J.**, SUN Yiyang, Ma Jing, Tu Jiachen, DENG Yuhui, HE Ping, HUANG Huaxiong, ZHOU Xiaoshuang, & XU Shixin (2021). "Analysis of main risk factors causing stroke in Shanxi Province based on machine learning models." *Informatics in Medicine Unlocked*, 100712. <https://doi.org/10.1016/j.imu.2021.100712>
3. Ma, J., Sun, Y., **Liu, J.**, Huang, H., Zhou, X., & Xu, S. (2021). Multi-objective optimization and explanation for stroke risk assessment in Shanxi province. (in review at) *Scientific Reports* <https://arxiv.org/abs/2107.14060>
4. Hui, D., Sun, Y., Xu, S., **Liu, J.**, He, P., Deng, Y., ... & Li, R. (2022). Analysis of clinical predictors of kidney diseases in type 2 diabetes patients based on machine learning. *International Urology and Nephrology*, 1-10. <https://link.springer.com/article/10.1007/s11255-022-03322-1>

### PROCEEDINGS

1. **J.J. Liu**, X.L. Peng, Y.H. Deng (2021). "Online Statistics Teaching-assisted Platform with Interactive Web Applications using R Shiny." (accepted by) *The 6th International Symposium on emerging Technologies for Education* <https://sete2021.uic.edu.cn>
2. **J.J. Liu**, K.K. Tsang, Y.H. Deng et al., "Improved Parallel RSA Cryptosystem with GPU for Network Information Security", *In The International Conference on Natural Computation, Fuzzy Systems and Knowledge Discovery*, 1061–1068, 2020. [https://doi.org/10.1007/978-3-030-70665-4\\_115](https://doi.org/10.1007/978-3-030-70665-4_115)

## Teaching

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<b>Teaching Assistant - STAT4103 Introduction of Deep Learning with Python</b> , BNU-HKBU UIC, Zhuhai, China	Sem 1, 2021-2022
<b>Teaching Assistant - MATH1173 Linear Algebra</b> , BNU-HKBU UIC, Zhuhai, China	Sem 2, 2021-2022

## Presentations

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<b>Online Statistics Teaching-assisted Platform with Interactive Web Applications using R Shiny. – SETE 2021 Conference Oral</b> , T2-201 (BNU-HKBU UIC)	2021
<b>Improved Parallel RSA Cryptosystem with GPU for Network Information Security – FSKD-ICNC 2020 Conference Oral</b> , Online	2020
<b>Alice, Bob &amp; Eve's Story - UICHCC Event</b> , T8-305 (BNU-HKBU UIC)	2019
<b>Collaborating and Converging - UICHCC Event</b> , T8-306 (BNU-HKBU UIC)	2018

## Selected Projects

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### Next Generation Web-based Portal for USBC (Ongoing)

LEADER

December 2021 - present

- Started from 2018, USBC Maintenance Group provides technical support for UIC-STAT servers. In 2020, it successfully built the first computing cluster USBC, and over 100 researchers and students from department of statistics and data science using this cluster to conduct their research and projects.
- GitHub: <https://github.com/Bayes-Cluster/Code-Hub>

## **CEDapy: An Economic Data API package (Ongoing)**

LEADER

*December 2021 - present*

- This is a "all-in-one" economic data collecting library, with both python
- You can check it on GitHub: <https://github.com/TerenceLiu98/CEDapy>

## **NewsFeed: Newsfeed based on GDELT Project**

LEADER

*December 2021 - present*

- Based on the GDELT project, we are trying to build a newsfeed api for gathering the latest and historical news for easy investigation on the relation difference countries and the impact of the unexpected events
- You can check it on GitHub: <https://github.com/Cyclododecene/newsfeed/>