Terence, Junjie **LIU**

Mphil Student | Open Science Advocate

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Just for fun

The most troublesome thing in mathematics is "trivial", as I think it's "trivial", you don't think it's "trivial" (vise versa), which is the beauty of mathematics.

Education

Hongkong Baptist University *(joint with BNU-HKBU United International College)*   *Zhuhai & HKSAR, China*

Mphil student in Mathematics (Probability and Statistics)   *start from 2021*

- Full Scholarship
- Research Interst:
    1. Statistics Inference
    2. Reasoning and Probabilistic Model
    3. Graphical Model and Complex Network
    4. Statistical Methods with Federal Learning
    5. HPC Structure and Resource Optimization

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 student-based tech-oriented group: UICHCC `https://www.uichcc.com`
    2. USBC Cluster (UIC-Statistics Bayes Cluster) Adminstrator `https://uicstat.com/wiki`

Experience

BNU-HKBU United International College   *Zhuhai, China*

Research Assistant; Supervisor: Dr. Yu-Hui DENG & Prof. Hua-Xiong HUANG   *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; Supervisor: Prof. Kang-Too TSANG   *June 2019 - August 2020*

- Asymmetric Cryptography Algorithrm Acceleration with Heterogeneous Structure

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

Guangzhou IPLOOK Network Technology Co Ltd   *Guangzhou, China*

Management Intern; Mentor: Mr.Jian Wang   *June 2020 - August 2020*

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

Skills

Data: Collecting   cleaning   mining   analysis   visualisation
Programming Language: Python (intermediate)   R (intermediate)   MATLAB (beginner)   Bash (intermediate).
Natural Language: Chinese (including: Mandarin & Cantonese)   English with IELTS score 6.5
Statistical Methods:
    (a) Predictive modelling (regression, time series)
    (b) Statistical Infernce (Bayesian Approach)
    (c) hypothesis testing and confidence intervals
Deep Learning: Most of the basic Neural Network model (CNN, RNN and its variant)
Operating Systems: macOS   Linux   Microsoft Windows

Selected Publications

JOURNAL

3. **LIU, J.**, TSANG, K., & DENG, Y. (2021). "A Variant RSA Acceleration with Parallelization." (accepted by) *International Journal of Parallel, Emergent and Distributed Systems* `https://arxiv.org/abs/2111.11924`

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`

1. 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`

PROCEEDINGS

2. **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`

1. **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`

Teaching

Teaching Assistant - STAT4103 Introduction of Deep Learning with Python, BNU-HKBU UIC, Zhuhai, China   2021

Presentations

Online Statistics Teaching-assisted Platform with Interactive Web Applications using R Shiny. – SETE 2021 Conference Oral, T2-201 (BNU-HKBU UIC)   2021

Improved Parallel RSA Cryptosystem with GPU for Network Information Security – FSKD-ICNC 2020 Conference Oral, Online   2020

Alice, Bob & Eve's Story - UICHCC Event, T8-305 (BNU-HKBU UIC)   2019

Collaborating and Converging - UICHCC Event, T8-306 (BNU-HKBU UIC)   2018

Selected Projects

Next Generation Web-based Portal for USBC (Ongoing)   *ZHUHAI, CHINA*
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 50 researchers and students from department of statistics and data science using this cluster to conduct their research and projects.
- The first generation of HPC Portal relies on the JupyterHub: `https://github.com/Bayes-Cluster/Code-Hub`, which provide multiple useful extension

CEDApy: An Economic Data API package (Ongoing)   *ZHUHAI, CHINA*
LEADER   *December 2021 - present*

- This is a economic data collecting library, with both python and R
- You can check it on GitHub: `https://github.com/TerenceLiu98/CEDApy`