LIZHANG CHEN

Contact Information

- Mobile: (+86)-183-1058-8966

- Email: lz.chen0807@gmail.com

- Address: School of Science, Beijing Jiaotong University No.3 Shangyuancun Haidian District Beijing 100044 P. R. China

Education

- *Aug/ 2018~Present* **Beijing Jiaotong University**
Bachelor of Science in **Mathematics and Applied Mathematics** (GPA: 3.87/4.00, Rank: 1/60)

- *Jul/ 2021~ Sept/ 2021*   **University of Victoria (Mitacs Globalink Research Internship)**

- *Jul/ 2017~ Aug/ 2017*   **Shandong Mathematical Society Summer Camp (Shandong University)**

Research Experience

- Machine learning and its applications in Bioinformatics (supervised by Xuekui Zhang)
*We formulate the problem of clinical trial design into an optimization problem involving high-dimensional integration, and propose a novel computational solution based on **Monte-Carlo and smoothing methods**. Our method utilizes the modern techniques of General-Purpose computing on Graphics Processing Units for large-scale parallel computing. Compared to the standard method in three-dimensional problems, our approach is more accurate and 133 times faster.*

- Explain the generalization theory of neural network (supervised by Jitao Sang)
*In this research, we propose a new **Independent and Task-Identically Distributed (ITID)** assumption, to consider the task properties into the data generating process. The derived generalization bound based on the ITID assumption identifies the significance of hypothesis invariance in guaranteeing generalization performance.*

- Research on power system protection based on transient component (supervised by Liangliang Hao)
*After exploring the basic theory of wavelet alternation, the research goes on to study how to fix fault time quickly and precisely among fault signals in power systems in Python. We use wavelet transform for data processing, and then use **K-means** for fault classification, with an accuracy of 95%*

- Thermodynamics and gas dynamics simulation experiment (supervised by Xinghua Zhang)
*In this experiment, we use the **molecular dynamics** simulation method to make full use of the computing power of the server to numerically solve Newton's equation of motion of a large number of molecules and then to obtain the macroscopic properties of the system through numerical statistics. (Software: Unity3D. Computer language: C#. Server: Linux)*

Publications

- ***An Experimental Study of Semantic Continuity for Deep Learning Models*** Shangxi Wu, Jitao Sang, Xian Zhao, ***Lizhang Chen*** Tech report, arXiv, 2020 arXiv 2011.09789 ***(submit to CVPR 2021)***

- **Lizhang Chen**, Songkun Yan and Jiashen Tong. (2017). Specification 01 series and Catalan number. GaoZhong ShuLiHua , 10.3969/j.issn.1007-8312.2017.23.001

（陈立章,颜松昆,童嘉森."规范 01 数列"与卡塔兰数[J].高中数理化,2017,(23):1-2. DOI:10.3969/j.issn.1007-8312.2017.23.001.）

- **Lizhang Chen**, Jiashen Tong. (2017). Applying the idea of reforming to the second-order linear recursive sequence. *Gao Zhong ShuLiHua, 2017,(7):1. DOI:10.3969/j.issn.1007-8312.2017.07.001.*
（陈立章,童嘉森.运用化归思想求二阶线性递推数列通项[J].高中数理化,2017,(7):1. DOI:10.3969/j.issn.1007-8312.2017.07.001.）

Extracurricular and Volunteering

- Research assistant in [Beijing Key Lab of Traffic Data Analysis and Mining](#)

- Research assistant in Academy of Fundamental and Interdisciplinary Sciences of Beijing Jiaotong University

- Member of International Collegiate Programming Contest team of Beijing Jiaotong University

- Assistant in Virtual Laboratory Project of Department of physics, Beijing Jiaotong University

- Member of Science and Technology Association of Beijing Jiaotong University

Honors& Fellowships

- Honorable Mention in North China Undergraduate Physics Tournament. 2020

- Second prize in China Undergraduate Physics Experiment Competition. 2020

- Honorable Mention in Undergraduate Physical Experiment Competition of Beijing. 2019

- Honorable Mention in Chinese Mathematics Competitions. 2018

- Second prize in Shandong province mathematical society summer camp. 2017

- Second prize in Chinese National High School Mathematics League. 2017

Computer Skills

• Latex	• Linux	• Tensorflow/Pytorch
•Unity3D	•C/C++/Python/MATLAB/R (Proficient)	

Languages

• Chinese	• English

Hobbies

- Table tennis (member of Table Tennis Men's team of School of Science)