Tong Wang

+1 747-745-5451 | i.tongwang@outlook.com | Website: https://haha-tong.github.io/

EDUCATION

University of New Hampshire (UNH) **Orlando, US**
First-year Ph.D.; Big Data Analysis 8/2023 –Present

- **GPA: NA**
- **Main Courses:** Regression Analysis, Theoretical Statistics, Statistical Methodology for Data Science

University of New Hampshire (UNH) **Durham, US**
First-year Ph.D.; Statistics 8/2022 – 5/2023

- **GPA: 3.95/4.0**
- **Main Courses:** Applied Regression Analysis, Probability and Stochastic Processes, Statistical Methods for Quality Improvement and Design, Design of Experiments

University of New South Wales, Sydney (UNSW Sydney) **Sydney, AU**
Master; Statistics 2/2019 – 12/2020

- **WAM: 81.90 / 100.00 (graduate with excellence)**
- **GPA: 3.92/4.0 (ref. WES)**
- **Main Courses:** Stochastic analysis, Stochastic Processes, Bayesian Inference and Computation, Discrete/Continuous Time Financial Modelling, Categorical Data Analysis, Applied Regression Analysis
- **Honors/Rewards:** Master of Statistics with Excellence

California State University, Northridge (CSUN) **Los Angeles, US**
Bachelor; Mathematics-Statistics 1/2014 – 5/2018

- **GPA:** 2.6 / 4.0 (overall); 3.4/4.0 (major)
- **Main Courses:** Intro Probability, Partial Differential Equation, Real Analysis, Complex Analysis, Probability Measure, Advanced Linear Algebra, Advanced Statistics, Math Modeling
- **Honors/Rewards:** Dean's List (Cal State Northridge, 12/2017)

Northeast Forestry University (NEFU) **Harbin, P.R.C**
Bachelor (No degree earned); Civil Engineering 9/2012-12/2013

- **GPA:** 3.13 / 4.0
- **Main Courses:** Structural mechanics, Strength of materials, Calculus I&II, Linear Algebra

WORKING EXPERIENCE

PingAn Property & Casualty Insurance of China Ltd. (Headquarters) **Shenzhen, P.R.C**
Big Data Analyst 3/2021 – Present

- Using Hive SQL, which is like SQL to do data extraction, transformation, loading and data analysis. Building wide table and perform OLAP data analysis.
- Develop the HMO project from nothing. HMO is short for health maintenance organization, which is the most important project amongst PingAn Property & Casualty Insurance. From the perspective of employees and managers, we provide employees with welfare insurance and health services to ensure workplace health, and managers with protection and health dashboard to predict enterprise risks. In terms of data, integrating the statistics of insurance underwriting and claim of all the health insurance policies, which are not expired. Based on those statistics, provided early warnings , suggestions, and suggested products to specific company.
- Customer's traffic flow analysis: For some APP product that is already online (now has more 140 million users), according to the difference of customer group, namely new customers, active customers, silent customers (those who do not active in 90-180 days), lost customers (those who do not active more than 180 days), performing the analysis of traffic, functions usage, retention rate, and activity rate, etc. Providing user portraits according to user behavior preferences, loyalty, etc to prove the rate of retention and activity.
- Activity operation review analysis. Provide data support analysis for completed activities to improve the pertinence and participation of future activities.

- KPI assessment of branches across the country, including the achievement tracking of indicators of migration rate, activity rate and service utilization rate.
- Data logic combing to promote report or statement development and launch.
- Other more detailed data analysis support in many different specializations.

INTERNSHIP EXPERIENCE

PingAn Life Insurance of China Ltd. (Headquarters) **Shenzhen, P.R.C**
Business analyst (Intern) 6/2018 – 7/2018

- Assist the Department to process and analyze product sales data, evaluate product distribution and promotion, and predict the focus of product promotion in the future.
- Revise, supervise and sort out the data reported by 25 provincial institutions
- Complete a forecast template through daily report and monthly report, which can be used to estimate the profitability of multiple products in the same period.

CSC Financial Co., Ltd. (Beijing Branch) **Beijing, P.R.C**
Fund manager & product manager (Intern) 6/2017-7/2017

- Learn the operation process of various businesses at the counter, contact and guide individual customers and institutional customers to handle business.
- Familiar with the basic knowledge of various asset allocation such as stocks and funds in the securities market, customer wealth management and marketing skills.
- Proficient in using operating software for market analysis and structured design for customer asset investment.
- Learn to fill in the individual bills of securities business.

PROJECT

A Copula Representation of The Asymmetric Laplace Distribution **Sydney, AU**
6/2020-12/2020

- **Research Content:** A maximum likelihood method for jointly estimating the marginal conditional quantiles of multiple response variables under the framework of linear regression is studied. We consider a slight reparameterization of the Multivariate Asymmetric Laplace Distribution proposed by Kotz et al. and use its position-scale hybrid representation to implement a new EM algorithm for estimating model parameters. The idea is to extend the connection between the asymmetric Laplace distribution and the well-known univariate quantile regression model to a multivariate environment.
- **Research Results:** This paper proposes a new likelihood-based method for joint estimation of conditional quantiles of multiple response variables. The multivariate asymmetric Laplace distribution is appropriately reparametrized. Using this process, it is proved that the regression parameters can be easily estimated in closed form, thus avoiding the direct maximization process. The performance of the two methods is evaluated through simulation experiments, and the extreme quantiles are also considered as possible simulation scenarios. Finally, through empirical research, since quantile regression has been widely used, several extensions of the results obtained in this paper can be analyzed in future studies.

Morphological Edge Detection Algorithm of Colon Pathological Sections Based on Shearlet
Journal of Mathematics, vol. 2022, Article ID 4663935, 13 pages, 2022.
https://doi.org/10.1155/2022/4663935

Shenzhen, P.R.C
12/2019-12/2020

- **Research Content:** This paper proposes an idea of combining the Meyer Shearlet and mathematical morphology to produce the edge detection of pathological sections of the colon. Also, this paper provides an improved algorithm for the edge detection of mathematical morphology with the background of multiscale and multi-structure. This algorithm is used to carry out the edge detection of images after denoising yields a new edge detection algorithm that fuses the Meyer Shearlet denoising and mathematical morphology. According to the simulation results, the new algorithm is more beneficial for the observation and diagnosis of doctors since the edge noise of the colon pathological image detected by the new algorithm is smaller and provides more continuous and clear lines.
- **Research Results:** By constructing a class of sufficiently smooth sigmoid functions and providing a more general expression of the Meyer scale function and Meyer wavelet function, which makes the commonly

used Meyer scale function a special case of the more general Meyer scale function constructed in this paper. Then, taking the sufficiently smooth sigmoid functions as an example, the combination of Meyer wavelet and Shearlet is applied to denoising images of colon pathological sections. The denoising effect is better than other denoising algorithms, and the shape of sigmoid functions can be adjusted to achieve different denoising effects. Finally, an improved morphological edge detection algorithm is used to detect the edge of the colon pathological sections after the Meyer Shearlet denoising.

Model Prediction Using Logistic Regression **Los Angeles, US**
1/2018-5/2018

- **Research Content:** On the basis of collecting and reading academic research papers in recent 5 years, select undergraduate students from one of the famous American universities, calculate the influencing factors of their grades, and give preliminary judgments on gender, race, family environment and early grades, which can judge the student's performance in college.
- **Research Performing:** according to the requirements of the project, select the GPA summary of mathematics undergraduates from a famous university in the United States in recent 5 years, obtain their gender, age, race, SAT score, enrollment time, course pass rate, GPA, GPA of the previous year, graduating high school and other information through legal public data, and use logistic expression to judge whether various factors will affect the student's GPA.
- **Research Results:** The data regression equation is used for data analysis. By constantly testing various data combinations to improve the accuracy of the data, the analysis conclusion is drawn - based on the undergraduates majoring in Mathematics in one of the famous American universities, it can be found that race, SAT (the student's college entrance score) and GPA of the student in previous years will greatly affect the student's total score. Then, given a new student whose grades are unknown, the GPA range of the student at graduation can be predicted.

SKILLS AND INTERESTS

Languages: Chinese mandarin & English; Fluent in English (6 years of overseas study life experience)
Skills: Adept in MATLAB, R, SAS, SQL, Minitab, SPSS, JMP, and Microsoft Office
Interests: Digital technology, mobile phone chip performance, and unboxing and evaluation of technology products.