Liangliang Zhuang

Curriculum Vitae

Zhejiang, China

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Education

2015–2019 **B.Sc. in Statistics**, GPA: 3.43/4, Wenzhou University, Wenzhou, China.
- Main courses: probability theory and mathematical statistics; stochastic process; machine learning; advanced mathematics

2019–2022 **M.Sc. in Statistics**, GPA: 3.58/4, Wenzhou University, Wenzhou, China.
- Supervisor: Ancha Xu, professor
- Main courses: statistical learning theory; reliability statistical analysis; degradation processes in reliability; deep learning

2022–present **PhD. in Statistics**, GPA: 3.65/4, Zhejiang Gongshang University, Hangzhou, China.
- Supervisor: Liping Zhu, professor and Ancha Xu, professor
- Main courses: statistical learning theory; reliability statistical analysis; Bayesian analysis

Publications

- **Liangliang Zhuang**, Ancha Xu* and Xiao-Lin Wang*, "A new dynamic predictive maintenance framework using Bayesian deep learning for failure prognostics", *Reliability Engineering and System Safety*, 234 (2023): 109181 (IF: 8.2).
- **Liangliang Zhuang**, Ancha Xu* and Jihong Pang, "Product reliability analysis based on heavily censored interval data with batch effects", *Reliability Engineering and System Safety*, 2021, 212:107622 (IF: 8.2).
- **Liangliang Zhuang** and Ancha Xu*, "Data analysis of progressive-stress accelerated life tests with group effects", *Quality Technology & Quantitative Management*, 2022, 10.1080/16843703.2022.2147690.
- **Liangliang Zhuang**, Ancha Xu*, "Remaining useful life prediction for two-phase deteriorating process based on reparameterized inverse Guassian process", *Working paper*.
- **Liangliang Zhuang**, Ancha Xu*, "Multivariate inverse Gaussian process with common effects", *Working paper*.

Research Grants

- Analysis on the influencing factors of comprehensive competitiveness of Chinese cities, *National Innovation and Entrepreneurship Program*, 1 Jan 2018 - 1 Jan 2020 (PI).
- Reliability analysis based on interval data with batch effects, *Foundation of Wenzhou University Graduate Innovation*, 1 Jan 2019 - 1 Jan 2020 (PI).
- Statistical analysis of lifetime data with batch effects, *Foundation of Zhejiang Educational Committee of China*, 1 Jul 2020 - 1 Jan 2021 (PI).
- Application innovation of reliability analysis, *Project the Research Foundation from Zhejiang New Miao Talents Program Fund*, 1 Jul 2021 - 1 Jul 2022 (PI).

Research Experiences

2021.7–2022.1 **Research assistance**, Hong Kong Polytechnic University.

- Advisor: *Xiao-Lin Wang, Research Assistant Professor*
- Read related literature on maintenance; based on Bayesian deep learning, combine remaining useful lifetime prediction with preventive maintenance.

2019–present **Group member**, East China Normal University.

- Advisor: *Yincai Tang, Professor*
- Learn Bayesian analysis and some approximate Bayesian methods and apply it to Spatio-temporal statistics; as a participant, cooperate with Huawei to build an application platform for reliability analysis.

2018–2021 **Group member (core)**, Wenzhou University.

- Advisor: *Ancha Xu, Professor*
- Master the basic knowledge of reliability statistics, including: failure-time data; degradation process; accelerated life test; attended a seminar for one semester as a keynote speaker.

Practical Experiences

2020–present **Knowledge sharer**, *Website online*.

- Create an owner WeChat official account to share some programming knowledge which has 300 original blogs, 30,000 readers and 1,000,000 reading times and ranked fourth in the field of R language.
- Establish two training courses and post them online: data visualization (click), document communication (click). The total number of views of the two videos exceeds 20,000 times.

Awards and Achievements

- Best Student Paper Award in the 4th International Conference on System Reliability and Safety Engineering (SRSE)(Dec. 2022).
- Second Prize of the 6th National Academic Forum for PhD Students in Statistics (Nov. 2022).
- Third prize in the "Obey Cup" Industrial Supply Chain Data Intelligence Innovation Competition (Nov. 2022).

- Third prize in the "Obey Cup" Industrial Supply Chain Data Intelligence Innovation Competition (Nov. 2022).
- "Outstanding Graduate" in Zhejiang Province (2021).
- Third Prize of National Graduate Modeling Competition (2019, 2020).
- Meritorious Winner of American Mathematical Contest in Modeling (2018).
- Honorable Mention of American Mathematical Contest in Modeling (2017).
- Third Prize of National College Student Market Survey and Analysis Competition (2017).
- First Prize of Zhejiang Province in the National Modeling Competition (2017).

Progamming Skills

- **R**: Programming enthusiast, proficiency in drawing graphics using the *ggplot2* package; using Tidyverse package for data processing and analysis; familiar with using *shiny* package for web development and production.
- **Python**: Master the basic knowledge of python, and use *numpy, pandas, matlibplot,* and *skit-learn* library for data analysis; utilize the *tensorflow* library to build a deep learning network.