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工作经历

- **佐治亚理工学院** 亚特兰大
  博士后 *2021.07 至今*
  导师: **Jeff Wu**
- **香港城市大学** 香港
  科研助理 *2020.09-2021.04*
  导师: **Matthias Tan**

教育经历

- **香港城市大学** 香港
  联培统计学博士 *2018.09-2020.07*
  导师: **Matthias Tan**
- **中国科学院数学与系统科学研究院** 北京
  统计学博士 *2014.09-2020.07*
  导师: **于丹**
- **中国科学技术大学** 合肥
  理学学士 *2010.09-2014.06*
  华罗庚英才计划荣誉学位

研究领域

- **工业统计**
- **计算机实验**
- **基于物理信息的机器学习**

研究兴趣

我的研究兴趣主要涉及将应用领域的专业知识（如流体力学中的偏微分方程，系统生物学、金融数学中的随机微分方程等）总结为先验知识并将其用于统计模型的建立和参数推断。

具体来说，针对统计模型推断和参数校准问题，我的研究主要致力于提出新的统计模型和机器学习算法。它们能够为专业领域（物理学，生物学等）的科学家们提供从数据中验证和校准模型、为统计学家提供融合物理机理的统计建模、推断和不确定性量化的新方法。

其重要应用包括系统可靠性分析、计算流体力学模型的校准、水文学等与国计民生息息相关的重要问题。

论文发表

- **已发表期刊论文**

[1]. Du, S., **Li, Z.**, Yu, D., Li, D., & Hu, Q. (2020) *Exact Confidence Limit for Complex System Reliability Based on Component Test Data.* Quality Technology & Quantitative Management, 17(1), 75-88.

[2]. **Li, Z.**, Yu, D., Liu, J., & Hu, Q. （2021） *Higher-order Normal Approximation Approach for Highly Reliable System Assessment.* IISE Transactions, 52(5)， 555-567.

[3]. **Li, Z.**, & Tan, M.H. （2022） *A Gaussian Process Emulator Based Approach for Bayesian Calibration of a Functional Input.* Technometrics, 64(3),299-311.

- **已投稿期刊论文**

[4]. **Li, Z.**, Yang, S., & Wu, J. (2022+) *Inference of Nonlinear Partial Differential Equations via Constrained Gaussian Processes.* Submitted to SIAM Journal on Uncertainty Quantification.

[5]. Fan, Z., **Li, Z.**[1], Wang, J., Lin, D.K.J., Xiong, X., & Hu, Q. (2022+) *A Bayesian Robust Regression Method for Corrupted Data Reconstruction.* Submitted to Journal of Quality Technology.

- **会议论文**

[6]. **Li, Z.**, Hu, Q., & Yu, D. (2016) *Higher order normal approximation approach for system reliability assessment.* In 2016 11th International Conference on Reliability, Maintainability, and Safety (ICRMS 2016) (pp. 1-6). IEEE.

[7]. Fan, Z., **Li, Z.**, & Hu, Q. (2022) *Robust Bayesian Regression via Hard Thresholding.* In 36th Conference on Neural Information Processing Systems (NeurIPS 2022).

- **Book Chapters**

[8]. **Li, Z.**, & Tan, M.H. (2022) *Improving Gaussian Process Emulators with Boundary Information.* Artificial Intelligence, Big Data and Data Science in Statistics, 171-192.

- **工作论文**

[9]. **Li, Z.**, Yang, S., & Wu, J. (2023+) *Stochastic Differential Equations informed Gaussian Process for Parameter Inference.*

[10]. **Li, Z.**, Tan, M.H., & Wu, J. (2023+) *A Parameterization-Invariant Framework for Bayesian Calibration of Positive Definite Matrix* .

荣誉 & 奖励

- **IISE Transactions 2020 年度最佳论文提名奖** 美国
  IISE transactions Annual Meeting *2021*

- **IISE Transactions Featured Article** 美国
  IISE transactions *2019*

- **最佳论文奖** 杭州
  The 11th International Conference on Reliability, Maintainability and Safety (ICRMS) *2016*

[1] Corresponding author

- **优秀新生奖学金** 北京
  中国科学院数学与系统科学研究院 *2014*

- **华罗庚数学英才计划荣誉学位** 合肥
  中国科学技术大学 *2014*

- **国家奖学金** 合肥
  中国科学技术大学 *2013*

- **优秀学生奖学金** 合肥
  中国科学技术大学 *2011,2012*

学术报告

- **邀请报告**

  Functional Input Estimation Using a Gaussian Process Prior with Uncertain Correlation Parameters (2019) Workshop on Uncertainty Quantification, Yunnan University, Kunming.

  A Gaussian Process Emulator based Bayesian Calibration for Functional Parameters (2020) Academy of Mathematics and System Sciences, Chinese Academy of Sciences, Beijing

  A Partial Differential Equation Constrained Gaussian Processes Inference Method (2021) Academy of Mathematics and System Sciences, Chinese Academy of Sciences, Beijing

  Inference of Nonlinear Partial Differential Equations via Constrained Gaussian Processes (2022) Louisiana State University, Baton Rouge.

- **会议海报**
  Robust Bayesian Regression via Hard Thresholding. The 36th Conference on Neural Information Processing Systems (NeurIPS, 2022)

- **会议报告**

  Higher-order Normal Approximation Approach for Highly Reliable System Assessment. (2016) International Research Conference on Systems Engineering and Management Science (ICR-SEMS). Beijing.

  Higher order normal approximation approach for system reliability assessment. (2016) The 11th International Conference on Reliability, Maintainability and Safety (ICRMS) (pp. 1-6). IEEE. Hangzhou

  The Buehler lower limits on system reliability based on the components experiment data. (2016) The 7th Asia-Pacific International Symposium on Advanced Reliability and Maintenance Modeling (APARM), Seoul.

  Improved WCF expansion to assessing reliability of complex systems. (2017) The 10th International Conference on Mathematical Methods in Reliability (MMR), Grenoble

  A Gaussian Process Emulator Based Approach for Bayesian Calibration of a Functional Input (2021) INFORMS Annual Meeting. Anaheim, California.

  Calibration of Physics Informed Computer Models with Functional Inputs (2022) SIAM Conference on Uncertainty Quantification (UQ22). Atlanta, Georgia.

Higher order normal approximation approach for highly reliable system assessment. (2021) The IISE annual conference.

教学经历

- **讨论班**
  实验设计 (2016) 北京.
  计算机实验设计与分析 (2017) 北京.
  Sensitivity Analysis (2021) Atlanta, Georgia.
- **Special Topic Lecture**
  Introduction to Multi-armed Bandit and Thompson Sampling (2021) Atlanta, Georgia.

专业服务

- **为 IISE transactions, Statistical Papers, Technometrics 等重要学术期刊担任审稿人.**
- **共同主持国际会议 International Conference on Mathematical Methods in Reliability (MMR 2017) 的分组学术报告。**

专利获得

- **已完成专利**

  于丹, **李赵辉**, 胡庆培. 系统级产品可靠性综合评估置信推断方法. CN106169124A[P]

  于丹, **李赵辉**, 胡庆培. 多批次成败型试验下产品贮存期评估的 Buehler 方法. CN106251044A[P].

编程技能

- **熟练掌握 MATLAB，R 语言以及 Python**

推荐信

姓名	电子邮箱	单位
Jeff Wu	jeff.wu@isye.gatech.edu	佐治亚理工学院
Jianjun Shi	jianjun.shi@isye.gatech.edu	佐治亚理工学院
Matthias Tan	matthtan@cityu.edu.hk	香港城市大学