吴汪祺

个人简历
RESUME

年龄： 23　　**籍贯：** 安徽桐城　　**政治面貌：** 中共党员

主要荣誉： 国家励志奖学金、企业/综合奖学金、校级三好学生

电子邮箱： 2020wwq@my.swjtu.edu.cn

个人主页： https://mrwangqiwu.github.io/

教育背景

西南交通大学（211 双一流）　数学学院　统计学（国家一流本科专业建设点）　2021 年 9 月—至今

学习成绩： 4/79（**5%**）　　**英语水平：** CET4(554)　CET6 (501)

核心课程： 高等代数 I（96）、数学分析 I（95）、概率论（93）、数理统计（88，年级第六）
时间序列分析（99）、多元统计分析（98）、实用回归分析（94）、数学建模（92）

科研论文

参与科研训练项目、实习项目共 4 项，参与撰写和投稿论文 2 篇

➢Haoqi Liu, **Wangqi Wu**, Mei Yan.Variations in the spatiotemporal variability of soil respiration drive the upwards respiration trend**（已投稿 SCI 期刊《Catena》在审）**

- 本文基于多元回归模型，先结合环境因素对土壤呼吸值(Rs)进行预测，再对不同物种 Rs 值的时空变异性进行分析，并对其异质化、同质化和过渡阶段以及驱动影响深入探讨；
- 通过项目，熟练掌握了 R 语言建立线性、非线性回归模型的方法及应用，提升了数据清洗和分析的能力，锻炼了对复杂数据进行可视化展示的能力，掌握了科研写作的基本框架和逻辑。

➢Haitao Tian, Lei Huang, Shouri Hu, **Wangqi Wu**.A modified K-nearest neighbors regression for air pollution prediction**（已投稿 SCI 期刊《Environmental and Ecological Statistics》在审）**

- 本文提出一种 KNN 结合岭回归的新模型 KNN-RR，旨在提高在多重共线性影响下的模型预测性能。通过理论原理推导和实证分析，改进前后 MSE 为 318.61 和 28.4;
- 通过项目，学习研究 KNN 和岭回归的模型原理，提升了对统计方法和模型的理解、运用和改进能力，掌握了基础的模型原理推导方法，强化了 R 语言编程能力。

竞赛获奖

国家级奖项 5 项，省级奖项 9 项，校级奖项 2 项，共 16 项

➢第十四届全国大学生市场调查与分析大赛　国家级一等奖　核心成员　2023.09—2024.05

- 主要负责统计建模和数据分析，完成问卷设计、数据处理等工作，运用模糊综合评价法、IPA 分析、结构方程模型等方法；熟练掌握 R 语言、SPSS、yaahp 软件等各项功能与编程。

➢第十届全国大学生统计建模大赛　已进入国赛阶段　负责人　2024.03—2024.06

- 主要负责数据搜集和建模，采用 JMI 独立性检验法、LightGBM、贝叶斯时空回归模型等方法进行老年失能等级判别和城市失能率时空分析；熟练掌握 R 语言、WinBUGS 软件各项功能与编程。

➢第十七届挑战杯大学生课外学术科技作品竞赛　国家级一等奖　核心成员　2021.10—2022.03

➢第十三届 Mathorcup 全国大学生数学建模竞赛　国家级三等奖　建模手　2023.06

➢第十四届全国大学生数学竞赛　省级二等奖　独立完成　2023.03

实践经历

➢分类数据分析及其在统计建模中的应用【暑期国际课程】　2024.07

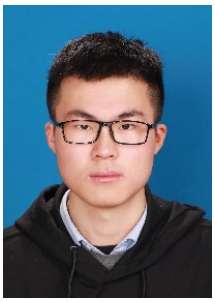
- 通过课题掌握分类数据的分布、分析列联表的方法及用于分类响应的回归模型（二项、多项等）。

➢校团委科创中心（学生组织）理事长/“红色笔记”老兵寻访项目组负责人　2022.03—2024.06

其他技能

➢编程能力： 熟练掌握 R、LaTeX、SPSS 功能与编程，能运用 Python、MATLAB 进行基本数据分析

➢技能证书： 国家计算机二级 office 证书、国家教师资格证（高中数学 笔试已通过）



Wangqi Wu

Age:23 | **Native place:**Tongcheng,Anhui
Email: 2020wwq@my.swjtu.edu.cn
Personal Website: https://mrwangqiwu.github.io/

CURRICULUM VITAE

Education

Southwest Jiaotong University **211 | Double First-Class Initiative** **Sep.2021-Present**

Statistics(National first-class undergraduate major construction point) | School of Mathematics

Grade Rank: **4/79 (5%）** **English Level:** CET4(554) CET6 (501)

Core Courses: Advanced Algebra I (96)、Mathematical Analysis I (95)、Probability Theory(93)
Analysis of Time Series(99)、multivariate statistical analysis(98)、regression analysis(94)

Research Paper

➢Haoqi Liu, **Wangqi Wu**, Mei Yan.Variations in the spatiotemporal variability of soil respiration drive the upwards respiration trend(**Submitted to SCI《Catena》&reviewing)**

- Using a multivariate regression model, we predict soil respiration value (Rs) based on environmental factors, then analyze the spatiotemporal variability of Rs for each species and discuss deeply the heterogenization, homogenization and transition stages of Rs as well as the driving effect.
- Through the project, I have mastered the methods and applications to establish linear and nonlinear regression models with R, improved the ability of data cleaning and analysis, exercised the ability of visualization for complex data, and mastered the basic framework and logic of scientific research writing.

➢Haitao Tian, Lei Huang, Shouri Hu, **Wangqi Wu**.A modified K-nearest neighbors regression for air pollution prediction(**Submitted to SCI《Environmental and Ecological Statistics》&reviewing**)

- We develop a novel KNN rule that combines the ridge estimators called KNN-ridge regression(KNN-RR),aiming to improve the model prediction performance under the influence of multicollinearity. Through theoretical derivation and empirical analysis, the MSE before and after the improvement is 318.61 and 28.40.
- Through the project, I have learned and studied the model principles of KNN and Ridge regression, improved the understanding, application and improvement ability of statistical methods and models, mastered the basic model principle derivation method, and strengthened the programming ability of R.

Competition Awards

5 national awards, 9 provincial awards, and 2 school-level awards, a total of 16

➢**National first prize | The 14th National College Students Research and Analysis Competition | Core member | 2024.05**

- I mainly responsible for statistical modeling and data analysis, questionnaire design, data processing and other work, using fuzzy comprehensive evaluation method, IPA, structural equation model and so on. I make myself master of R, SPSS, yaahp software including their functions and programming.

➢ **Recommended to the national competition | The 10th National College Students Statistical Modeling Competition | Leader | 2024.06**

- I mainly responsible for data collection and modeling, using JMI independence test, LightGBM, bayes spatiotemporal regression model and other methods to distinguish the grade of elderly disability and the spatiotemporal analysis of urban disability rate; I make myself master of R, WinBUGS software including their functions and programming.

- **National first prize | The 17th "Challenge Cup" National College Student Extracurricular Academic and Technological Works Competition | Core member | 2022.11**
- **National third prize | The 13th Mathorcup National College students Mathematical Contest in Modeling | Modeler | 2023.06**
- **Provincial second prize | The 14th National Mathematics Competition | 2023.03**

Practice Experience

- **Categorical Data Analysis and Applications to Statistical Modelling(Summer International Program) | 2024.07**
  - Master the distribution of classified data, the method of analyzing contingency tables and the regression model (binomial, multinomial, etc.) for classified response through the subject.
- **School Youth League Committee Science and Technology Innovation Center (student organization) | Chairman | 2022.09-2024.06**
- **"Red Notes" veteran search project | Chairman | 2021.09-2023.06**

Skills

- **Programming ability:** Proficient in R, LaTeX, SPSS functions and programming, able to use Python, MATLAB for basic data analysis
- **Skill certificate:** Second-level Certificate for National Computer、Teacher Certification（High school math | written test passed）