Yi Jing

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Education

University of Science and Technology of China (USTC) *Anhui, China*
Bachelor of Science in Statistics, Minor in Computer Science *Expected: Jul. 2024*

- Overall GPA: 3.89/4.3 (90.28/100)

Relevant Courses

- **Statistics**: Mathematical Statistics, Regression Analysis, Multivariate Analysis, Non-parametric Statistics, Time Series Analysis, Fundamentals of Statistical Algorithm, Bayesian Analysis (Graduate Course)
- **Mathematics**: Mathematical Analysis, Linear Algebra, Probability Theory, Applied Stochastic Processes, Real Analysis, Complex Variable, Functional Analysis, Convex Optimization
- **Programming**: Computer Programs Design, Data Structures and Database, Applied Statistical Software, Fundamentals of Scientific Programming with Python, Machine Learning
- **Computer Science**: Operation System, Computer Network, Introduction to Computing Systems

Research Work

GraphPath: Learn the Evolution of Human Diseases *Apr. 2023 - Present*
Advisors: Prof. Tianxi Cai & Postdoc. Suqi Liu (DBMI, Harvard)

- Achieved nearly 90% accuracy in patient-level medication treatment prediction by integrating Graph Neural Networks (GNN) with medical knowledge graph and Long Short-Term Memory (LSTM) models
- Developed a comprehensive patient profile representation, offering significant potential for future applications
- Identified and categorized patients with varying patterns of disease progression using patient representations
- Collaborated intensively with clinicians to understand healthcare system and validate our research findings

RAREMed: Enhancing Medication Recommendation for Rare Disease Patients *Sep. 2022 - Aug. 2023*
Advisors: Prof. Fuli Feng & Prof. Xiangnan He (LDS, USTC)

- Addressed unfairness issues in medication recommendation, improving accuracy for patients with rare diseases
- Proposed a novel medication recommendation model named RAREMed that combines pre-training techniques
- Surpassed multiple leading methods, achieving a 3% performance enhancement on two real-world datasets
- Zhao, Z., Jing, Y., Feng, F., Wu, J., & He, X. (under review). *Leave No Patient Behind: Enhancing Medication Recommendation for Rare Disease Patients.* Manuscript submitted to WWW'24.

Course Projects

Fundamentals of Statistical Algorithm *Jul. 2023*
Advisors: Prof. Jing Zeng from the Department of Statistics and Finance, USTC

- Investigated and compared various algorithms for latent variable inference in text data
- Tested the effectiveness of these algorithms using both synthetic and real-world datasets
- Wrote a research paper on the project's key findings and implications

Time Series Analysis *Dec. 2022*
Advisors: Prof. Yu Chen from the Department of Statistics and Finance, USTC

- Collected daily data at USTC, including library admissions and package deliveries, for time series analysis
- Applied VAR and QAR models for predictive analysis and future trend forecasting
- Wrote a research paper on the methodologies and findings of the project

Applied Statistical Software *May 2022*
Advisors: Prof. Canhong Wen from the Department of Statistics and Finance, USTC

- Extracted data from the Douban website and a fiction site using web crawling techniques
- Conducted comprehensive data processing, visualization, and analysis
- Developed an interactive R Shiny website to display data visualization and analysis

Teaching Experiences

Applied Statistical Software   *Mar. 2023 - May 2023*
- Instructed a 3-credit course for 81 sophomore students, focusing on practical applications of statistical software
- Developed and assigned homework and programming labs to enhance students' hands-on skills
- Won the Excellent Teaching Assistant Award based on student evaluations and positive feedback

Probability Theory and Mathematical Statistics   *Sep. 2022 - Jan. 2023*
- Led a 3-credit course for 120 sophomore students, covering foundational concepts in probability theory and statistics
- Held bi-weekly seminars to deepen students' understanding and application of theoretical concepts

Honors

- Outstanding Student Scholarship, Golden Award (Top 3%)   *2021, 2023*
- Excellent Teaching Assistant Award (Top 5% among all TAs)   *2023*
- Outstanding Student Scholarship, Silver Award (Top 13%)   *2022*
- Chinese Mathematics Competitions, Anhui, Second Prize   *2021*

Other Activities and Interests

Class Monitor   *Sep. 2020 - Present*
- Organized various class events and activities, fostering a collaborative and engaging environment
- Conducted monthly class assemblies to to disseminate important information and address concerns
- Acted as a liaison between students and faculty, effectively communicating needs and feedback

School Dance Club   *Sep. 2020 - Aug. 2021*
- Participated in club activities actively, including campus-wide and regional performances in Anhui Province
- Served as a key member in organizing club events, fostering group cohesion, and enhancing performance quality

Volunteer Experiences
- **Opera Theater, Hefei**   *Jul. 2021*
  Role: Event Assistant
  Ensured event operations, enhancing audience experience through effective support and guidance
- **Graduate Admission Team**   *Jul. 2021*
  Role: Admissions Support Assistant
  Supported interviews and examinations in a streamlined graduate admission process
- **Undergraduate Admission Team**   *Jun. 2021, Jun. 2022*
  Role: University Ambassador and Student Guide
  Delivered presentations to prospective students and provided personalized guidance, enhancing their understanding of our university
- **Basketball Companion for Children with Autism**   *Mar. 2021 - Jul. 2021*
  Role: Sports Mentor and Companion
  Dedicated over 16 basketball classes to mentoring children with autism, developing their physical and social skills

Skills

- **Programming**: Python (Pytorch), R, C, LaTeX
- **Languages**: Chinese (native), English (proficient)
- **Hobbies**: Sports (jogging, swimming, climbing), dancing, drawing