

Xiuyuan Xiong

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Personal Profile

I am a third-year graduate student at Beijing Sport University, enrolled in the Sports Science programme, set to graduate next year. I am dedicated to sports performance analysis and have over two years of expertise in the field. My specialties include statistical data analysis, complexity science, and machine learning.

Education

Beijing Sport University

MEd in Sports Science

Beijing, China

Sept 2021 - Current

- **GPA:** 91.84/100
- **Courses:** Artificial Intelligence in Sport, Sports Statistics, Sports Biomechanics, Sports Physiology, Sports Biochemistry
- **Thesis:** Analysis of passing performance of high level football teams based on network science

East China University of Technology

BS in Mathematics and Applied Mathematics

Nanchang, China

Sept 2017 - Jul 2021

- **Courses:** Mathematical Statistics and Data Analysis, Mathematical Model, Data Mining, Numerical Analysis, Operations Research, Probability Theory, Fundamentals of C Language Programming, Ordinary Differential Equations, Graph Theory with Applications
- **Thesis:** Application of multivariate statistical analysis in modern basketball tactics research

Research Experience

Beijing Sport University

Analysis of football passing performance

Beijing, China

Sept 2021 - Current

- Analysing passing events in the football match using different **mathematical-physical models**.
- Focusing on **spatiotemporal data** of football matches.
- We have preliminarily explored the **spatial distribution patterns** of passing and receiving locations in all 2022 FIFA World Cup matches, and improved the construction method of the **passing network**.
- **Technical Skills:** Python (Pandas, PyTorch, NumPy, Scikit-learn. etc.), Matlab, SPSS, GraphPad Prism, LaTeX.
- **Soft Skills:** Writing and Typesetting of Scientific Papers, Teamwork, Time Management, Communication, Presentation skills.

East China University of Technology

Quantitative Research on China's Stock Market

Nanchang, China

Jun 2020 - Apr 2021

- Collected data and preprocessed it, trained different **machine learning algorithms** using the data, evaluated the model through backtesting, and optimized the model.
- Developed a real-time trading system for the Chinese stock market.
- **Technical Skills:** Python, Matlab, R.

Publications

JOURNAL ARTICLES

Distribution pattern analysis of passing and receiving locations during the 2022 FIFA World Cup using the measure of spatial entropy

Xiuyuan Xiong, Kuiying Deng, Jiale Wu, Yixiong Cui

International Journal of Performance Analysis in Sport (Out for review)

CONFERENCE

Evaluation of comprehensive ability of CBA teams based on multiple regression and TOPSIS model

Xiuyuan Xiong, Zhengliang Lin, Yanfei Shen, Kuiying Deng

13th National Sports Science Conference, 2023, Tianjing, China, Poster

Performance evaluation of the 2022 FIFA World Cup teams using the measure of spatial entropy of successful passes

Xiuyuan Xiong, Yixiong Cui, Kuiying Deng

28th Annual Congress of the European College of Sport Science (ECSS2023), 2023, Paris, France, Poster

Robustness analysis of the passing network of Chinese Super League teams in case of random failure

Xiuyuan Xiong, Yanfei Shen, Kuiying Deng

18th Chinese Conference on Complex Network (CCCN2022), 2022, Zhuhai, China, Oral presentation

Multi-factor investment strategies based on support vector regression

Xiuyuan Xiong, Wenjuan Zhang, Hua Zeng

7th International Conference on Computational and Information Sciences (ICIS 2019), 2019, Chengdu, China, Oral presentation

Passing performance of teams with low ball possession in the 2022 Qatar World Cup based on social network analysis

Yating Zhou, Yixiong Cui, **Xiuyuan Xiong**

13th National Sports Science Conference, 2023, Tianjing, China, Poster

University Projects

Tennis performance analysis Beijing Sport University <ul style="list-style-type: none">Sports performance analysis based on video analysis.Collected and analysed the spatiotemporal data of male players in the 2022 and 2023 Australian Open.	Beijing, China Jul 2023 - current
Football Big data System Beijing Sport University <ul style="list-style-type: none">Collected football match data using Python and Catapult.Designed of the player and team rating system based on machine learning algorithms.Data visualization.	Beijing, China Sept 2022 - Jun 2023

Academic appointment

Beijing Sport university Teaching Assistant <ul style="list-style-type: none">Courses: Multivariate Statistical Analysis	Beijing, China Feb 2023 - Jun 2023
Beijing Sport university Teaching Assistant <ul style="list-style-type: none">Courses: Probability Theory and Mathematical Statistics	Beijing, China Sept 2022 - Dec 2022

Skills

Programming	Python, Matlab, SPSS, R.
Miscellaneous	LaTeX, Origin, GraphPad Prism, Microsoft Office.
Language	Mandarin(Native), English.

Interests

Basketball	
Football	
Tennis	
Swimming	
Combat	Brazilian Jiu-Jitsu and Filipino martial arts