Chunyang Huang

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EDUCATION

Tsinghua University   September 2020 - July 2024(Expected)
B.Sc. in Physics & Maths, Advisor: *Shaoliang Zhang*
Zhili College, Tsinghua University, GPA: 3.74/4.00

Zhejiang University   July 2023 - September 2023
Undergrad Research Internship @State Key Lab of CAD & CG, Advisor: *Yingcai Wu*

RESEARCH PUBLICATION

Chunyang Huang, Shaoliang Zhang "*Explainable artificial intelligence model for identifying Market Value in Professional Soccer Players*", arXiv:2311.0459 , submitted for Journal of Sports Economics

RESEARCH EXPERIENCE

Searching for New Multi-quark States and Measuring their Scattering Cross Section in the CMS Experiment   September 2021 - Match 2022
Advisor: Zhen Hu
· Contributed to Monte-Carlo simulation on high-energy physics

Exploring High Redshift Universe Through JWST Data Analysis   September 2022 - February 2023
Advisor: Zheng Cai
· Utilized JWST data to measure signal-to-noise ratios of dark sources, aiding in the discovery and study of high redshift galaxies.

Machine Learning for Predicting FIFA Player Market Values   October 2022 - November 2023
Advisor: Shaoliang Zhang
· Developed a dataset by extracting key attributes of over 12,000 FIFA players from the official FIFA website, demonstrating strong data gathering and preprocessing skills.
· Implemented and evaluated various supervised learning ensemble models, showcasing expertise in machine learning algorithms to determine the most effective approach for market value prediction.
· Conducted explainable machine learning analysis(SHapley Additive exPlanations), providing both global and local explanations for significant features and enhancing the ability to derive and communicate meaningful insights from big data.

NBA Player Performance Evaluation Using Spatio-Temporal Data and Deep Learning July 2023 - Now
Advisor: Yingcai Wu, Shaoliang Zhang
· Pioneered the integration of multi-agent trajectory prediction algorithms from autonomous driving into basketball performance analysis, addressing limitations in current Expected Possession Value (EPV) models.
· Enhanced the EPV model to better interpret game situations using constrained SportVU data, leading to a more precise quantification of individual and team performance.
· Contributed to the research by establishing a new environment for strategic decision-making by players in response to game dynamics and refining performance evaluation metrics for both individual players and teams.

SCHOLARSHIPS & AWARDS

- Chi-sun Yeh Scholarship (Highest Honor for Physics Major), Tsinghua Xuetang Talents Program   2020–2023
- the First Award for Academics, Zhili Colege   2022-2023
- Gold Medal in the Chinese Physics Olympiad(CPHO)   2019

SKILLS

Skills   python, Web scraping, Machine learning, Deep learning(Pytorch), LaTeX

EXTRACURRICULAR ACTIVITIES

2022 Beijing Winter Olympics Volunteer

Tutor at *Tsinghua's DaYiFang*: Assisted in math and physics courses (total 89 h)

The president of a student club named *Student Honor Guards of Tsinghua University*, with about 90 members