

Xinyu Chen

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EDUCATION

University of Science and Technology of China (USTC)

M.S. in Statistics, School of Management

Hefei, China

Sept. 2021 – Expected Nov. 2024

Beijing Institute of Technology (BIT)

B.S. in Statistics, School of Mathematics and Statistics

Beijing, China

Sept. 2017 – Jun. 2021

MANUSCRIPT & PUBLICATION

Chen X., Yu D., and Zhang X. (2023). Optimal Weighted Random Forests. arXiv preprint arXiv:2305.10042.

(Under 2nd round review by *Journal of Machine Learning Research*)

TALK

The 1st International Conference on Machine Learning and Statistics

Shanghai, China

Delivered a 20-minute presentation on the session “Statistical Prediction and Machine Learning”

Aug. 2023

RESEARCH EXPERIENCE

Optimal Weighted Random Forests

Hefei, China

- Proposed an weighting algorithm that combines random forest regression trees with weights obtained by our loss function.
- Developed an iterative algorithm to accelerate convex optimization by reducing its order.
- Proved the asymptotic optimality of our algorithms, showing that they approach the forecasting performance of the infeasible but best possible weighted random forests under certain conditions.
- Conducted extensive numerical studies on real data sets from the UCI Machine Learning Repository using R, consistently outperforming equal-weight forests and other existing weighted random forests in most cases.

INTERNSHIP EXPERIENCE

Anhui Province Key Laboratory of Contemporary Logistics and Supply Chain

Hefei, China

Student Research Assistant

Mar. 2023 – Jun. 2023

- Worked on predicting one-day package delivery based on customer and goods data from JD.com.
- Processed big data from multi-source, merging, cleaning, and feature engineering with Numpy and Pandas.
- Implemented asymmetric binary classifiers (RF, XGBoost, and ANN models) in ensemble frameworks, achieving an F1 score of 0.78, surpassing JD.com’s conventional forecasting strategy with an F1 score of 0.72.

Shanghai Gene Asset Management Co., Ltd.

Shanghai, China

Quantitative Stock Analysis Intern

Jul. 2022 – Oct. 2022

- Cleaned financial data from HeidiSQL and Wind databases.
- Engaged in mining alpha factors for stock selection using Python by capturing patterns in financial market.
- Participated in collaborative meetings, reviewed financial research reports, and contributed to brainstorming sessions to enhance alpha factor generation strategies.

AWARDS & HONORS

1st-Tier Postgraduate Scholarship of USTC

2021, 2023

Distinguished Graduate of BIT (TOP 10%)

2021

China National Encouragement Scholarship (TOP 5%)

2018

Outstanding Undergraduate Scholarship of BIT (TOP 15%)

2017 – 2021

SKILLS & INTERESTS

Programming: R, Python, MATLAB

Languages: Mandarin (Native); English (Fluent: IELTS 6.5)

Research Interests: Forecasting Combination, Multi-source Learning, Model Selection and Averaging

Other Interests: Chinese Kungfu, Hiking, Cycling, Painting