Huachen Ren

huachen.r@outlook.com 201-349-3470

EDUCATION

Rutgers University New Brunswick, USA
Ph.D., Statistics Sep 2019 – Jan 2025

- Coursework: Applied Statistical Model, Advanced Probability Theory, Advanced Statistical Theory, Machine Learning, Time Series Analysis, Stochastic Process, Natural Language Processing (Audit) Differential Privacy and Algorithmic Fairness, Algorithms & Data Structure (Audit)

Yale University New Haven, USA
Master of Arts, Statistics Aug 2017 - May 2018

- Coursework: Applied Data Mining and Machine Learning, Data Analysis, Linear Models, Optimization Techniques, Statistical Decision Theory, Statistical Inference, Stochastic Process

Renmin University of China (RUC) Beijing, China
B.A. in Mathematics & Applied Mathematics Sep 2013 - Jun 2017

- Class Ranking: 2/177, Overall GPA: 3.82/4.00
- Coursework: Mathematical Finance, Data Structure, C++ programming, Financial Engineering and Risk Management
- Honors: Wu Yuzhang Scholarship-Summa Cum Laude
  China National Scholarship (Top 1%)
  Outstanding Student Leader in RUC (Top 1%, 2013-2014)

WORKING EXPERIENCE

Credit Lyonnais Securities Asia (CITIC CLSA) New York, US
Summer Intern, Quantitative Researcher July 2024 - Aug 2024

- Developed hybrid recurrent neural network and GARCH models to predict minute-level returns and volatility based on intraday data of E-mini S&P500, which enjoy high returns and Sharpe ratios
- Studied the dependence between overnight and intraday return, and the temporal patterns of volatility

Haipu Investments Beijing, China
Summer Intern, Quantitative Researcher May 2019 - Aug 2019

- Built parallel online data processing pipelines for high frequency transaction data using python
- Constructed online pipelines to compute features based on high frequency transaction data to detect market anomalies

7-Eleven Inc. Dallas, US
Data Scientist (Full Time), Artificial Intelligence Team Jun 2018 – Mar 2019

- Designed, prototyped and productionalized a hybrid recommender system based on matrix factorization and text mining using Spark for 7-Eleven mobile App, and implemented a/b testings to evaluate the performance of the recommender system
- Applied data mining algorithms like FP-growth and Aprior algorithms to obtain popular combo offers based on 200GB transaction data and recommended combo offers for product team based on different vendors, locations and time

GF Asset Management Co. Ltd Guangzhou, China
Summer Intern, Quantitative and International Department Jun 2016 - Aug 2016

- Developed and backtested algorithmic trading strategies based on the volatility and RPS for Chinese stock index.
- Analyzed bond funds and wrote weekly market tracking reports

RESEARCH PROJECTS

Optimal algorithms for multi-armed bandit and reinforcement learning
Rutgers University, USA Sep 2021 – Jun 2024

- Developed minimax and asymptotically optimal algorithms for stochastic multi-armed bandits under heavy-tailed rewards
- Designed instance-dependent optimal algorithms for tabular Markov decision processes
- Technical report: "On Lai's UCB on multi-armed bandits.", submitted
- Technical report: "Sharp Non-asymptotic Regret Bounds in Multi-Armed bandits", submitted

High dimensional logistic regression and nonparametric statistical learning
Rutgers University, USA Sep 2021 – Dec 2023

- Studied the asymptotic risk of logistic regression under the high dimensional regime and nonparametric additive models
- Technical report: "Gaussian random projections of convex cones: approximate kinematic formulae and applications."

SKILLS

- Machine learning, Statistics, Deep Learning, NLP
- Packages and Tools: Python, R, C++, PyTorch, Tensorflow, Spark, SQL, Linux, Databricks
- CFA Level I