Ruipeng (Jim) Deng

rd639@cornell.edu | 641-888-6024 | Ithaca, NY

EDUCATION

Cornell University, College of Engineering, Ithaca, NY
Master of Engineering in Financial Engineering, Financial Data Science Certificate, GPA: N/A **Expected December 2025**

Grinnell College, Grinnell, IA
Bachelor of Arts in Mathematics (Statistics Concentration), **GPA: 3.94** **Aug. 2020 to May 2024**

Selected Coursework: Stochastic Calculus, Monte Carlo Simulation, Fixed Income Securities, Machine Learning, Probability and Statistics, Optimization, Operating Systems and Parallel Algorithms, Object-Oriented Problem Solving

SKILLS

Technical: Python, R, MATLAB, C, C#, Java, Excel, GitHub

EXPERIENCE

Intern, Quantitative Trading Team, *Finovax*, New York, NY **July to Sept. 2024**
- Researched 10 CTA quantitative trading strategies, including trend-following, breakout, and mean-reversion approaches, enhancing portfolio robustness by identifying strategies that reduced drawdowns by up to 7% during periods of volatility
- Utilized the Backtrader library in Python for backtesting, performance analysis, and strategy visualization, generating equity curves and performance metrics
- Implemented and backtested the Dual Momentum Strategy algorithm, increasing simulated return by 9% and reducing maximum drawdown by 3%, while optimizing code for efficient integration and testing

Intern, Research Department, *Deerfield Management Company*, New York, NY **May to Aug. 2023**
- Authored 20+ investment monitoring reports for the company's annual portfolio review, featuring detailed analysis of portfolio companies' financials and quantification of downside risk, including VaR, semi-deviation, and the safety-first ratio
- Analyzed historical ETF market performance, trends, and regulatory environment using data from leading mutual funds; assessed ETFs' competitive advantages in secondary market investment
- Evaluated and enhanced the Risk Parity model for ETF portfolios by back-testing in a Python-based virtual trading environment, leading to a 4% return increase and a 2% reduction in maximum drawdown

Research Assistant & Model Designer, *City University of Hong Kong,* Hong Kong **May 2022 to Aug. 2023**
- Assisted senior research fellows in developing an intelligent and interactive engine capable of identifying users through footstep-induced vibrations
- Applied different sets of data processing and visualization techniques, including data alignment, null value elimination, shape processing, etc., in order to preprocess the data for model training
- Constructed and implemented an artificial neural network in Python, trained models recursively to maximize the model performance, and validated the model through 10-fold cross-validation; fine-tuned model parameters for optimized accuracy of 97%

PROJECTS

Kaggle Competition on Student Performance Prediction, *Grinnell College*, Grinnell, IA **Feb. to June 2023**
- Developed a predictive model using boosting algorithms such as CatBoost to assess student performance during game-based learning
- Achieved a top 5% ranking in the competition

Grinnell Summer MAP Project, National Science Foundation, *Grinnell College*, Grinnell, IA **May to Aug. 2023**
- Developed multiple inquiry-based online games incorporating interactive data visualizations using R Shiny and C# to facilitate teaching statistical concepts and enable teachers to assess learning outcomes through gameplay data analysis
- Analyzed quiz results between classes that used the game and those that did not, revealing that students who engaged with the game scored an average of 15 points higher

PUBLICATIONS

- Xu, X., **Deng, R.**, Zhao, G., Zhang, B., & Liu, C. (2024). Deep domain generalization-based indoor pedestrian identification using footstep-induced vibrations. *IEEE Transactions on Instrumentation and Measurement*, 73, 1-8.
- **Deng, R.**, & Xu, X. (2023). High accuracy personal identification through footstep-induced vibration signals. *12th International Conference on Structural Health Monitoring of Intelligent Infrastructure*.

LEADERSHIP EXPERIENCE

Statistical Modeling Teaching Assistant, *Grinnell College*, Grinnell, IA **Jan. 2023 to May 2024**
- Assisted students during class and conducted mentor sessions to enhance their understanding of statistical modeling

ACTIVITIES/INTERESTS

Activities/Interests: Phi Beta Kappa; Brazilian jiu-jitsu; Wrestling; Biking; Swimming; Hiking