Yizhou Zeng

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EDUCATION

University of Pittsburgh 09/2020 - Present
Ph.D. in Mathematics
- Relevant Coursework: Machine Learning, Numerical Computing, Stochastic Methods, Monte Carlo, TensorFlow for Deep Learning

New York University 09/2017 – 05/2019
M.Sc. in Mathematics

University of California, Davis 08/2013 – 05/2017
B.Sc. in Mathematics and Physics

PROJECTS

Jane Street Market Forecasting Competition (Python, PyTorch) 10/2024 - 01/2025
Kaggle.com
- Used machine learning models to predict market, achieved a top 300 global ranking in competition.
- Designed and implemented an ensemble model with neural networks and XGBoost, enhancing stability in R-squared scores.
- Conducted exploratory data analysis on 10GB of market data (500K timesteps, 60 features) using `pandas`, optimizing data insights and feature selection.
- Adopted online learning, boosting submission-stage performance by 10%.

Short-term Course Projects (Python)
University of Pittsburgh
- **Orderbooks Trading:** Processed 1-year Bitcoin orderbook data (9GB), built LSTM-CNN models in `TensorFlow` with a backtesting framework, simulated trading with profit.
- **Monte Carlo in Pandemic:** Simulated a SIRD model variant using Monte Carlo methods, achieving results that closely matched observed COVID-19 wave patterns.
- **Numerical Algorithms:** Implemented ODE solvers and numerical linear algebra using `NumPy` functions.

EXPERIENCE

Quantitative Strategist Summer Associate 06/2025 – 08/2025
Goldman Sachs
- Adopted ML and NLP techniques to analyze social media posts and high frequency market data.
- Developed tree-based model to predict market movement for market-making strategies, capturing social media signals, and achieving over 55% precisions for rare movements.

Graduate Student Researcher and Instructor 09/2021 – Present
University of Pittsburgh
- Taught college calculus courses as the sole instructor, designed curriculum and supplementary material, mentored incoming PhD students on pedagogy.
- Developed algorithms for fast image generation in generative models.
- Researched on metric geometry open problems, presented on national conferences.

COMPUTATIONAL SKILLS / OTHER

Programming/Softwares: MS Office, Python (`pandas`, `PyTorch`), R, LaTeX
Honors and Activities: A&S Graduate Fellow, Departmental TA Mentor
Language: Chinese (Native), English (Proficient), German (Elementary)