

Zimu (Tim) Zhou

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EDUCATION

New York University	New York, NY
M.S. <i>Data Science</i>	Sept. 2024- (expected) May 2026
New York University	New York, NY
B.A. <i>Mathematics with High Honors</i> , GPA: 3.778 (<i>Cum Laude</i>)	Sept. 2021- May 2024
Relevant Coursework: Machine Learning Applied Statistics Optimizations Generative Models	

SKILLS & ACTUARIAL EXAMS

- **Programming:** Python (*np, pd, plt, XGBoost, Torch, Xarray*), SQL, R, Julia
- **Machine Learning:** XGB Trees, Random Forest, Neural Network, Score-Based Diffusion Model
- **Passed Actuarial Exams:** SRM (Statistics for Risk Modelling), P (Probability)

PROFESSIONAL EXPERIENCES

Machine Learning Engineer Intern, *Amap* *Beijing, June- August 2024*

- Employed *XGBoost* to build regression tree models to predict the sales of client's new branch stores at universities and hospitals with an accuracy of **88% and 92%**, respectively.
- Exploited the *DBSCAN* clustering model to identify the key features of high-volume stores and calculated the *cosine similarities* to identify areas with similar customer profiles.
- Utilized *XGB multi-classification tree* to differentiate among **10 million+** faculties, students, and other people in the universities with an accuracy of **86%**.
- Developed a *MySQL-based data pipeline* to match the client's branch stores with nearby segmented roads from electronic map grids.
- Built a *SQL-based model* to determine the primary trade area of **150+** branch stores, employing self-made *custom Python functions utility* for necessary distance calculation and data transformation

Data Scientist Intern, *Tencent* *Hong Kong, July- August 2023*

- Collaborated closely with senior team members to build models for the **risk assessment** for loan approvals by using *Decision Tree model*, increased the accuracy by **15%**.
- Led a team of 5 interns to conduct *A/B testing* on **1,000+** user evaluations on global virtual banks, providing insights that optimized marketing strategies and budget allocation.
- Developed hotness indicators and formulated an *Evaluation model* that **ranked 20+** global virtual banks based on regional hotness rankings and the data provided by UX evaluation.

Quantitative Researcher Intern, *AQUMON* *Hong Kong, June- July 2022*

- Developed a *P&L calculator and evaluator* program to calculate the client's slippage and trading P&L when purchasing CTAs.
- Designed an automated *ETL* script that extracts client's trading data from daily bank statements to the company's record, fixing **all** the previous incorrect data.
- Built a Python script to calculate and prioritize different holdings for *inter-futures trading*, optimizing trade execution and improving overall portfolio performance.

PROJECTS

Applied Math Research: Moist Convection Simulations, *NYU Courant* **New York, Sept. 2023- present**

- Developed **30+ Python scripts** to simulate and analyze climate models on moist convections on **High-Performance-Computing (HPC)** in **Linux** environment, varying parameters and boundary conditions.
- Applied *PCA and Fourier Transform* to extract key periodic features from high-dimensional time-series data generated by the simulation.
- Created detailed *data visualizations* to interpret simulation results and support comprehensive analysis and insights.