Manlin Zhang

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Education

University of California, San Diego *Sept 2024 - Jun 2026 (Expected)*

Master of Science in Data Science *GPA: 4.0/4.0*

- Courses: Machine Learning Algorithm, Probability and Statistics for Data Science, Interpretable Machine Learning, Explainability in Artificial Intelligence

University of Wisconsin-Madison *Sept 2020 - May 2024*

Bachelor of Science in Mathematics *GPA: 3.7/4.0*

- Courses: Abstract Algebra, Real Analysis, Data Science, Statistics, Probability Theory, Algorithms, Calculus
- Dean's List for three consecutive semesters

Skills

Programming	Python (Pandas, NumPy, SciPy, Scikit-Learn, PyTorch, TensorFlow), R, MySQL, Linux, MATLAB, LaTeX, Javascripts
Analytical Methods	ML Models(Random Forest, Bayesian Optimization), A/B Test, Deep Learning, Data Visualization, Data Wrangling
Tools	Tableau, Power BI, Git, Word, Excel, PowerPoint, Figma, Canva, Photoshop, Premiere Pro
Language	Mandarin (native), English (proficient), Japanese (intermediate)

Professional Experience

Data Analyst and Product Management Intern *Jun 2023 - Jul 2023*

JD.com Inc., Brand Business Department *Beijing, China*

- Conducted customer churn analysis on a dataset of over one million rows in RStudio, utilizing regression analysis, ANOVA, and T-tests to generate daily insights for optimizing sales policies
- Designed and implemented A/B tests for new mobile app features, analyzing data from 500 million customers; increased Unique Visitor (UV) sales by 23.5% and Gross Merchandise Volume (GMV) by 15%
- Developed a fraud detection model using Random Forest, achieving a Z-score of 1.98 (95% confidence level) to identify coupon abuse by vendors, increasing detection accuracy by 26% and reducing fraudulent coupon use by 43%

Undergraduate Course Assistant *Sept 2022 - May 2023*

Math Learning Center, University of Wisconsin-Madison *Madison, WI*

- Provided tutorial assistance to over 80 students in Preparatory Algebra and Calculus during weekly lectures
- Established a weekly open forum to guide 200 freshman students on Calculus course and mathematical proofs
- Collaborated in interdisciplinary team meetings with course instructors, advocating for enhanced academic support and achieving a 15% increase in student satisfaction

Research Experience

People and Robots Laboratory, University of Wisconsin-Madison *Oct 2023 - May 2024*

Research Assistant; Advisor: Bilge Mutlu, Yaxin Hu, Arissa Sato *Madison, WI*

- Developed a telepresence robot using Raspberry Pi SDK, ROS, and Python to enable remote touring for homebound elderly individuals and people with disabilities, enhancing accessibility in healthcare
- Integrated large language models (GPT-3, GPT-4) via prompt engineering, enabling responsive, conversational interactions between the robot and users
- Analyzed interaction data and robotics logs using qualitative and quantitative methods, providing insights to advance remote healthcare technology

The Geometric Brownian Motion in Stock Forecasting and Analysis *Aug 2023 - Dec 2023*

Online Workshop with graduate students at Columbia University, HKU, and UW-Seattle; Advisor: Ying-Jen Yang *Madison, Wisconsin*

- Conducted analysis of stock indexes using Pearson Correlation Coefficient and Mutual Information to observe effects of features on model accuracy across different time scales
- Simulated sine waves on correlation and mutual information graphs to investigate index skewness and its impact on model accuracy
- Applied Time Series Analysis (ARIMA) and compared it to the Geometric Brownian Motion model for stock forecasting, achieving a 91% accuracy rate

Projects

Customer Churn Prediction Model Using Machine Learning for Financial Services *Jun 2024 - Jul 2024*

Beijing, China

- Developed a customer segmentation model using K-Means clustering on transaction data to enhance targeted strategies
- Created an interactive Tableau dashboard with over 10 visualizations to monitor customer segments and generate actionable insights for strategic decision-making
- Launched targeted campaigns based on segmentation, using transfer learning on a large financial dataset, achieving a 15% increase in new customer conversions and 10% in revenue per user