

LOU ZHOU

Houston, TX

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U.S. Citizen

Education

Rice University

Expected Graduation May 2027

Bachelors of Arts in Statistics and Sport Analytics(3.89 GPA)

Houston, TX

Relevant Coursework: Introduction to Sport Analytics, Linear Algebra, Introduction to Program Design, Linear Regression, Elements of Analysis, Advanced Statistical Methods, Stochastic Methods, Tools and Models for Data Science

Experience

Carnegie Mellon University

June - July 2025

Undergraduate Researcher | R, tidyverse, ggplot, Git, caret

Pittsburgh, PA

- Selected for fully funded research position focused on applied statistics and machine learning in sports
- Analyzing QB decision-making ability by building R ranking models to estimate throw target and extracting features from NFL tracking and event data

Rice University

August 2024 - Present

Research and Teaching Assistant | Python, pandas, NumPy, PyTorch, Git, Matplotlib, SQLite

Houston, TX

- Reduced data processing time by 83% using pandas by redesigning a data processing pipeline that generated features from 300+ matches of soccer tracking and event data
- Expanded data availability for ML training by broadening data pipeline support to 3 new soccer data provider formats with pandas/NumPy
- Refined soccer pass quality estimations, adding features(e.g. player velocity) to a PyTorch CNN to allow the model to more accurately capture game context
- Achieved a 94% student satisfaction rate from semester survey by guiding 17 students as the sole TA in an applied data science course through in-class help and office hours

St. Jude Children's Research Hospital

June - July 2024

Biostatistics Research Assistant | R, tidyverse, ggplot, face, plink

Memphis, TN

- Created ALS patient-specific disease evolution projections by building models to forecast ALS progression using functional PCA on longitudinal patient data in R
- Contributed to understanding of ALS genetic risk factors by identifying 3 progression markers with Genome-Wide Association Studies on genotype and PCA data using HPC resources

Shelby County Election Commission

June - July 2023

Data Analyst Intern | Python, pandas, NumPy

Memphis, TN

- Streamlined post-redistricting updates and reduced manual effort by reassigning precincts to 500,000+ voter records with pandas
- Improved election resource planning by enhancing Python tools to compute voting-method and precinct turnout metrics

Projects

Team Coin Flip: Travel Fatigue and Performance

January 2024

- Placed 2nd of 59 teams at the 36-hour 2024 Rice Datathon by creating XGBoost models with scikit-learn and a modified ELO ranking to assess travel impact on performance

Breaking the Cycle: Reducing Recidivism in Iowa State Prisons

August 2022 - May 2023

- Improved recidivism risk prediction by building a Keras neural network (0.85 AUC-ROC) to predict inmate recidivism probability, outperforming baseline models (0.64 AUC-ROC)
- Delivered economic burden estimates and policy guidance using Monte Carlo simulations and SHAP values in Python to model variability and recidivism risk factors
- Awarded 2nd place of 227 teams in the 2023 Modeling the Future Challenge, earning a \$15,000 team prize

Additional

Languages & Tools: Python(scikit-learn, pandas, NumPy, PyTorch, Keras), R(tidyverse, ggplot, face, glmnet, shiny, caret), XGBoost, Java, SQLite, Git, EC2, EMR

Activities: *Technical Lead*, Rice Sport Analytics Team (2025–2026) · *Tracks Organizer*, 2025 Rice Datathon · *Mentee*, 2025 MIT Sloan Sports Analytics Mentorship Program