

Xingye Zhang (Austin)

AI Agent Systems · Systems Engineering · Applied Data Science

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Professional Summary

Systems Engineering M.S. student at the University of Pennsylvania with a Statistics and Economics background. Builds practical AI systems that combine agent research, evaluation, data processing, backend engineering, and reproducible experimentation. Current work focuses on reliable tool-using agents, runtime intervention, multi-step recovery, and closed-loop evaluation.

Education

University of Pennsylvania — Philadelphia, PA

M.S. in Systems Engineering · 2025–Present · Expected graduation: December 2026–June 2027 · GPA: 3.60/4.00

Selected coursework: Applied Machine Learning; Introduction to Optimization Theory; Big Data Analytics; Statistics for Data Science; Simulation Modeling and Analysis; Feedback Control Design and Analysis; Machine Learning for Time-Series Data.

University of Connecticut — Storrs, CT

B.A. in Statistics and Economics · 2020–2024 · GPA: 3.88/4.00

Research Experience

AI Agent Systems Research Collaboration with University of Connecticut Researchers — Remote

Research and Engineering Contributor · January 2026–Present

- Research reliable tool-using agents, runtime intervention, recoverable multi-step execution, evaluation design, and closed-loop agent control.
- Designed evaluation for safety, task completion, structured block feedback, and post-intervention recovery; co-developed a 60-episode benchmark across five benign and adversarial task families.
- Integrated online action interception and evaluated five runtime-defense conditions across 300 traces; performed a clean-seed leakage audit.
- Co-developed closed-loop trace-replay evaluation across 10,933 shared states and 114 matched telecom tasks.

Work Experience

University of Connecticut, Department of Statistics — Storrs, CT

Research Assistant · March–December 2024

- Integrated satellite imagery, OpenStreetMap footprints, and UT-GLOBUS data for city- and building-scale analysis.
- Applied spatial statistics and geospatial visualization to estimated building heights and urban-form attributes.
- Built an HPC/Slurm workflow that reprocessed building-level data for 413 major U.S. cities in approximately 1.5 hours.

GBCS — SkyIT Services — Alberta, Canada

Backend Developer Intern · May–August 2024

- Collaborated with frontend and backend engineers to deliver and release the Voop application for a client; developed, tested, optimized, and maintained REST APIs with Express.js and Django REST, using Postman for endpoint validation.

- Supported a Firebase-to-MySQL migration through schema refinement and data-consistency checks.

Beijing QIANSHIDU Trade Co., Ltd. — Beijing, China

Data Analyst and Market Research Associate · January–May 2024

- Analyzed more than 1 GB of two-year business data and developed a GPT-assisted demand-analysis workflow using SHAP and K-means.
- Produced insights that supported reallocating approximately 10% of product supply toward neighboring-country markets; represented the company at Vision Expo 2024 in New York City.

Selected Projects

New Haven Spatial Analysis

Python · **GeoPandas** · **PySAL** · **Plotly** · **Quarto**

- Analyzed 331,423 UT-GLOBUS building records using spatial weights, Global and Local Moran's I, a spatial-lag experiment, and interactive 2D/3D visualization.
- The public browser preview removes local paths and states data-quality limitations explicitly.

Evidence-Governed Career Operations Agent

Node.js · **Playwright** · **LaTeX** · **Structured workflow state**

- Extended the open-source Career-Ops project by santifer with explicit approval gates, evidence-linked résumé routing, time-bounded liveness checks, opportunity protection, and normalized ATS form-state validation.

NYC Rodent Inspection Analysis

Python · **pandas** · **GeoPandas** · **statsmodels** · **Folium**

- Linked public datasets, modeled inspection outcomes, and built geospatial visualizations presented to the NYC Open Data team.

NBA Salary Prediction

Python · **scikit-learn** · **Hyperopt** · **Statistical modeling**

- Engineered performance features, compared four models, and applied cross-validation, Bayesian optimization, and ensembling.

Skills

Programming: Python, JavaScript, SQL, R

AI / ML: PyTorch, TensorFlow, random forest, K-means, SHAP, time-series analysis, Bayesian optimization

LLM / Evaluation: LLM APIs, tool-using agents, RAG, embeddings, Hugging Face, structured traces, leakage auditing

Backend / Data: Django REST, Express.js, MySQL, Firebase, REST APIs, PySpark, Spark SQL

Systems / Geospatial: Linux, Bash, Git, HPC, Slurm, GeoPandas, QGIS, SNAP, spatial statistics