Dingjun Wang

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EDUCATION

New York University — **New York, NY, US**
MSc in Management and Analytics — *Expected May 2026*
Selected Coursework:
Information Technology & Data Analytics (A); Research Process and Methodology (A)

Shanghai International Studies University — **Shanghai, China**
BS in Information Management and Information Systems — *Sep 2020 – June 2024*
Selected Coursework:
Data Mining (93.4); Game Theory (94); Python Programming (89); Machine Learning & Deep Learning (85)

RESEARCH EXPERIENCES

Wildfire World-Model Reinforcement Learning — **NYU, New York**
Independent Project — *Oct 2025 - Present*
Description:
- Implementing a lightweight DreamerV2-based agent to learn coarse spatiotemporal wildfire dynamics from environmental features (topography, vegetation, road density).
- Designing synthetic sequence generation and replay mechanisms to enable model-based RL training under sparse real-world temporal data and limited hardware resources.
- Developing a Monte-Carlo backward evaluation procedure to test how small ignition changes propagate through the learned dynamics, enabling risk estimation under alternative scenarios.

Stacked Learning for Wildfire Prediction and Resource Allocation Diagnostics — **NYU, New York**
Supervisor: Prof. Omar Alvarez-Pousa — *Mar 2025 – Oct 2025*
Description:
- Developed a stacked ensemble model (LightGBM, CatBoost, XGBoost, MLP) optimized with Optuna to estimate wildfire susceptibility across California.
- Constructed a statewide spatiotemporal dataset and engineered a facility-resource index using a distance-decay formulation.
- Performed discrepancy diagnostics by comparing facility coverage with predicted fire risk for decision-support applications.
- Created a public GitHub repository and animated visualizations to support upcoming manuscript preparation.

Media Load's Impact on Stock Turnover Rate — **SISU, Shanghai**
Supervisor: Prof. Chen Yi — *Dec 2023 – Apr 2024*
Description:
- Conducted empirical analysis on how Media Load (combining article volume and recency weighting) influences stock turnover in Chinese markets.
- Modeled interaction effects such as weekday/weekend dynamics and sensitivity to recency.

Completed as a formal undergraduate thesis and successfully defended it before a faculty committee under rigorous academic supervision.

SVM + Human Feedback Hybrid Method for Stock Prediction under Uncertainty — **SISU, Shanghai**
Supervisor: Prof. Antonie Jacquier — *Oct 2022 – Dec 2022*
Description:
- Implemented a hybrid prediction framework combining SVM with structured human feedback to model stock prices during high-volatile periods (e.g., pandemic).
- Evaluated performance gaps between human-in-loop predictions and pure SVM baselines, highlighting conditions where human input improves model robustness.

Results were transformed into a conference paper under faculty supervision.

RESEARCH & PROJECTS

Publication

Wang, D. (2022). Improving Machine Learning's Performance in Predicting Stock Price in Unexpected Situations. In 2022 2nd International Conference on Economic Development and Business Culture (ICEDBC 2022) (pp. 1509-1514). Atlantis Press.

Open-source Project — **NYU, New York**

Wildfire World-Model Reinforcement Learning (GitHub) — *Oct 2025 – Present*

Applies Dreamer V2 model and a Monte-Carlo method to study wildfire dynamics and risks.

Wang, D. Wildfire World-Model RL for California [Computer software]. *https://github.com/desmondwang013/CalfireDRL_DreamerV2*

California Wildfire Susceptibility Prediction (GitHub) — **NYU, New York**

Applies a stacked learning method to predict wildfire susceptibility and diagnose facility alignments. *Mar 2025 – Oct 2025*

Wang, D. Stacked Ensemble Modeling of California Wildfire Susceptibility with Infrastructure–Risk Alignment Diagnostics [Computer software]. *https://github.com/desmondwang013/calwildfire-prediction/*

PROFESSIONAL EXPERIENCES

Heraeus — **Shanghai, China**

Data Intern — *Sep 2023 – Jan 2024*

- Supported the development of a finance data analysis platform through Python, RStudio, and JavaScript, contributing to backend logic, database management, and frontend/UI components.
- Applied statistical modeling (multivariate regression, decision trees) and SPSS to analyze partner financial data and identify structural patterns informing strategic decisions

HM Capital — **Shanghai, China**

Quantitative Investment Intern — *Jul 2023 – Sep 2023*

- Built core programming components for a multi-factor investment model using Python, including factor construction, risk–return analytics, and model framework design.
- Conducted quantitative research on Chinese real-estate indicators to generate data-driven insights supporting portfolio strategy.

SKILLS

- Programming: Python, R, Java, C++
- Tools: Tableau, SPSS, Stata, RapidMiner, Scikit-learn, Blender
- Database Management: MySQL, SQLite
- Language: English (Proficient), Chinese (Native), Spanish (Basic), Japanese (Basic)