Jinquan Ye

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Education

Duke University, **GPA:3.907/4**, Environmental Policy, **Master** 2023 - 2025

Nanchang University, **GPA:82.21/100**, Management Science, **Bachelor** 2018 - 2022

Papers

Xia, Z., **Ye, J.**, Marlon, J., Dong, X., Xie, J., Tian, X., ... (2024). Growing climate change concern but rising regional disparities in China. **(Co-first author, npj Climate Action, Click Here)**

Xia, Z., **Ye, J.**, Ding J, et al. Predicting Climate Policy Support with Large Language Models: Assessing Accuracy and Bias in AI-Simulated Policy Support. **(Co-first author, Click Here)**

Ye, J., Song, Y.,...,(2022). Assessment of medical waste generation, associated environmental impact, and management issues after the outbreak of COVID-19: A case study of the Hubei Province in China. **PloS One**.

Xia, Z., **Ye, J.**,..., (2022). Meta-analysis of Climate Change Experience and Climate Change Perception. **Environmental Research Communication**.**(Co-first author, Click Here)**

Xia, Z., **Ye, J.**,(2024). LLMscreen: A Python Package for Systematic Review Screening of Scientific Texts Using Prompt Engineering **(Co-first & Corresponding author, working paper, Click Here)**

Xia, Z., **Ye, J.**, & Debnath, R. (2025). Commentary on "A systematic review of worldwide causal and correlational evidence on digital media and democracy" by Lorenz-Spreen et al. (2023). Included in the *I4R Discussion Paper Series*. (**Co-first & Corresponding author, Click Here**)

..., ...,**Ye, J.**(2024). Evaluating Carbon Footprint Calculators: A Comprehensive Assessment Framework (**Clean Technologies and Environmental Policy**, **Click Here**)

Research experience

Duke University, Prof. Junjie Zhang's RA 2023.03 - Now

- *Detail*: Developed LLM-based greenwashing detection system (RAG + HyDE) for corporate climate disclosures and built China's first comprehensive disclosure database. Led climate transition risk modeling with energy invoice and supply-chain network features using explainable machine learning for credit default prediction and green finance optimization.
- *Responsibility*: Research design, proposal drafting, large-scale database construction, pipeline management, and supervision of student validation teams.
- *Outcome*: Presented greenwashing results at 2023 Green Finance North Bund Forum and HKU ESG Workshop; Produced The Climate Disclosure and Carbon Accounting in the Banking Sector Research Report (2023). Delivered flagship report Climate Transition Risk Assessment and Management Optimization: Case Study of Jiangnan Rural Commercial Bank (2025), informing bank green credit policy.

University of Cambridge, with Prof. Ramit Debnath, Research Collaborator 2024.06 - Now

- *Detail*: 1.NHB project: Engaging with the replication studies -pending published in Nature Human Behaviour. 2.Large Language Model(LLM) project: Lead a study on automated systematic reviews and meta-analysis using large language models.
- *Responsibility*: Responsible for updating article data according to the protocol. Developed two python packages and uploaded them to PyPI to extend the openness and readability of our work.
- *Outcome*: 1. Writing the section: A comment on "A systematic review of worldwide causal and correlational evidence on digital media and democracy" by Lorenz-Spreen et al., (2023). 2. Two python packages have been published, LLMscreen and LLMeta.

Copenhagen Business School, with Prof. Kristian S Nielsen, Research Collaborator 2024.08 - 2025.05

- *Detail*: Exploring large language models to simulate the intervention effects of different interventions on human pro-environmental behavior and pro-environmental policy support.

- *Responsibility*: Designing chains of thought, and designing multithreaded acceleration programs to speed up the process of simulating human decision making with LLM.
- *Outcome*: A working paper: Predicting Climate Policy Support with Large Language Models: Assessing Accuracy and Bias in AI-Simulated Policy Support.

Academic Reviewer & Supporter

Journal Reviewer: Energy Research & Social Science, Natural Language Engineering, Cleaner and Responsible Consumption, Innovation and Green Development

Summer School Instructor: The 4th ESE Summer School (Resources, Conservation & Recycling), neural networks with Python

Teaching Assistant: Duke University, Global Environmental Politics (2025 Spring)

Research skills

Programming: PROFICIENT IN PYTHON (transformer, HuggingFace, web acquisition, pyomo, natural language processing, Langchain, sentiment classification models, multi-region input-output, data cleaning), R (ggplot2, econometric models,Structural equation modelling, Meta-analysis, autoMRP)

Social Science Software: Stata/SPSS(Traditional econometric models), Ucient(Social network analysis), Citespace(Bibliometric), Geoda(Analysis of GIS data)

Other: LaTeX, Mathematica(Matrix operations), Lingo(Operations Research), Octopus(Web data acquisition)

Language: Chinese (native), English (fluent), Hakka(fluent)

Python Package Development: Developed SECFC (Survey Embedded Carbon Footprint Calculator), a Python package to calculate carbon footprints from survey data. Developed LLMeta, a Python package for conducting systematic reviews using large language models in conjunction with Retrieval-Augmented Generation (RAG) and Hypothetical Document Embeddings (HyDE) techniques.

Intramural funding

Duke University, Leveraging GPT-4 for ESG Evaluation 2023-2024

Nanchang University, A correlation analysis of the spatial and temporal evolution of mass opinion sentiment in economic and social media in the post epidemic era 2019-2021

Nanchang University, A study of the environmental impacts of medical waste and policy effectiveness in the context of COVID-19 2019-2020

Awards

Social Impact Program Scholarship, Duke University 2024-06

The 18th National Graduate Student Environmental Forum in China, Third Prize 2023-05

Outstanding Student Scholarship, Nanchang University 2021-06

Chinese National Student Mathematical Modelling Competition, First Prize 2020-11

Energy Saving and Emission Reduction Competition, Nanchang University, Third Prize 2020-06

Asia-Pacific Mathematical Modelling National, Second Prize 2019-12

International Youth Mathematics Challenge (IYMC) - Gold Medal(Top 3%) 2019-10

National College Student Extracurricular Academic and Technological Works Competition, Third Prize 2019-01