

# Jianing (Oscar) XIE

Bachelor's Graduate, Xidian University & Virginia Tech, Blacksburg, United States  
xiejianing147@outlook.com — +1 540 998 3801 — www.linkedin.com/in/jianingxie814

## EDUCATION

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**Xidian University & Virginia Tech**, Xi'an & Blacksburg, China & United States Sep. 2022 — May. 2026

**Rank: 1/93**

*Bachelor of Management: Big Data Management and Application* (Xidian)

GPA: 3.9/4.0

*Minor: Artificial Intelligence & Large Language Model Application* (Xidian)

*Bachelor of Science in Business in Management: Entrprneurshp, Innov & Tech Mg* (Virginia Tech)

GPA: 3.78/4.0

### Core Courses:

- Business Intelligence Analysis (Data Mining): A-
- Introduction to Data Science: A
- Management Information System: A-
- Database Principle and Application: A
- Business Statistics, Analytics, Modeling: A
- Statistical Machine Learning & Text Mining: A
- Natural Language Processing: A
- Principles of Large Models and Industry Applications: A

## RESEARCH INTERESTS

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Information System, Human-AI Interaction, Behavioral Economic, Design Science, E-commerce, Education

## PUBLICATIONS & CONFERENCE PRESENTATIONS

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### Refereed Journal Articles

- Li, M., Du, R., Ai, S., Hunt, R. A., & **Xie, J.** (2025). Trust or Distrust? AIGC Trustworthiness and an Extended Analysis within Nomology Framework. *Data Science and Management (JCR Q2)*

### Manuscripts Under Review

- Hunt, R. A., Simpson, J., & **Xie, J.** (2026). The Null Hypothesis at 100: How a Statistical Device Became an Epistemic Institution in Management Research and Where We Go from Here. *Academy of Management Annals (FT50, ABS 4\*)* (Proposal Under Review)
- Li, M., Du, R., Burton-Jones, A., & **Xie, J.** (2025) The Impact of Traceability Information on Consumer Purchase Behavior in E-commerce Platforms: Evidence from a Quasi-natural Experiment. *Internet Research (ABS 3, JCR Q1)* (Minor Revision, Resubmitted)

### Working Papers

- **Xie, J.**, Wang, A., & Shen, W. Diversity That Matters: Targeting Deep Structural Variation against Model Collapse in LLM Training. Manuscript in preparation. (**First Author**)

### Conference Proceedings & Presentations

- **Xie, J.**, Li, M., Du, R., & Townsend, D. M. (2025). The Impact of Generative AI Models on Consumer Purchase Behavior in E-Commerce Platforms: Evidence from a Quasi-Natural Experiment. In *Wuhan International Conference on E-business* (pp. 224-235). Springer, Cham. (**Presenter**)
- Li, M., **Xie, J.**, & Du, R. (2024) The Impact of Large Language Model Applications on User Reviews in the Tourism Industry @*Annual Conference of Chinese Information Economics*, China (**Presenter**)

## ACADEMIC EXPERIENCE

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### Linguistic Diversity and Model Collapse in Large Language Models

Blacksburg, United States

Supervisor: Alan Wang, Wenqi Shen

Feb. 2026 – Present

- Framed the study as **design-science** research and built its theoretical foundation on an **encoding-variability** mechanism that links the linguistic diversity of training text to a model's robustness against collapse under recursive training.
- Designed the project around a **Writeprints** linguistic-diversity framework that first isolates which dimensions of training text drive the deepest diversity loss under recursive training. The longer-term aim is to guide interventions on the training data that reduce both **diversity loss** and **long-tail knowledge loss**.
- Implemented a Writeprints feature pipeline in **Python** that computes **19** lexical, syntactic, structural, and content dimensions for each document, so that each diversity construct can be measured and disentangled separately.
- Fine-tuned a **Llama-3.2-1B** model with **LoRA** and carried it through **five generations** of recursive training on Wikipedia corpora, reproducing the iterative self-training loop that drives model collapse.

### The Null Hypothesis at 100: NHST as an Epistemic Institution in Management Research

Blacksburg, United States

Supervisor: Richard A. Hunt, Joseph Simpson

Feb. 2026 – Present

- Conducted a **science-of-science** integrative review of how **NHST** (Null Hypothesis Significance Testing) became an institutionalized epistemic rule in management research rather than a purely statistical technique.
- Designed a reproducible search and screening protocol on **Web of Science**, implemented in **Python**. Predefined inclusion criteria narrowed an initial **492** candidate articles from FT50 and leading management review journals to a final sample of **165** peer-reviewed papers.
- Scored each article's stance toward NHST through **LLM-based polarity analysis** and mapped the papers onto management sub-fields. Built the sentiment heat maps and publication-trend figures reported in the review.

- Theoretically, proposed one of the review’s six core insights, namely the risk of **epistemic inversion** under generative AI. AI-driven research workflows can reinforce **p-hacking** because they work backward from detectable patterns to claims that only appear theory-driven, whereby NHST is reduced to ex post validation instead of a test of ex ante theory.

### The Impact of Generative AI Models on Consumer Purchase Behavior in E-Commerce

Xi'an, China

Supervisor: Rong Du, David M. Townsend

Jul. 2024 – Jun. 2025

- Utilized a **Quasi-natural Experiment** approach, employing **Difference-in-Differences (DID)** method to investigate the impact of AI model applications (recommendation systems, review summarization, knowledge Q&A) on consumer purchasing behavior and perceived quality.
- Developed and implemented web scraping solutions with the **Scrapy** framework, successfully extracting more than **100,000** user reviews
- Conducted **sentiment analysis** using LLM APIs and **Natural Language Processing (NLP)** techniques (**word2vec**, **BERT**), and performed linguistic analysis with the **LIWC** text analysis tool to identify key linguistic features in user reviews.
- Systematically cleaned and processed over **1 million** transaction records using ETL methodologies and tools such as **Numpy**, **Pandas**, and the **DuckDB** database system.
- Theoretically, first to combine **cue utilization theory** with generative AI in e-commerce, analyzing how AI-driven purchasing assistant reshape market dynamics (long-tail vs. winner-take-all effects)
- Introduced Baidu Index (Google Trends) as an **objective brand awareness metric** and employed real sales data with a quasi-natural experiment design, overcoming prior reliance on indirect proxies (e.g., rankings).

### Construction of a Cognitive Rules-based Framework for AIGC Trustworthiness

Xi'an, China

Supervisor: Rong Du, Richard A. Hunt

Jan. 2024 – Oct. 2025

- Pioneered a novel diagnostic framework for AI-Generated Content (AIGC) trustworthiness by innovatively integrating **Nomology** theory with a dual cognitive perspective. This multi-level, nine-dimension framework was developed through **Grounded Theory** analysis of semi-structured interviews and validated via large-scale **text mining**.
- Conducted **semi-structured interviews** with over **20** users, both online and offline, including domestic and international undergraduates, doctoral students, and professionals from various industries with extensive usage experience.
- Performed text mining and **sentiment analysis** on social media data using **topic modeling** (e.g., **BERTopic**) to empirically validate the framework and quantify user trust levels across the nine dimensions.
- Diagnosing a core '**representation-substance imbalance**' in user trust—revealing that users' positive perception of AIGC's surface experience is undermined by a fundamental distrust in its core substance (e.g., information quality, transparency).

### The Impact of Traceability Information on Consumer Purchase Behavior in E-Commerce

Xi'an, China

Supervisor: Rong Du, Andrew Burton-Jones

Oct. 2023 – Present

- Utilized a **Quasi-natural experiment** approach, employing **Difference-in-Differences (DID)** methodology to investigate the impact of product traceability information, including traditional traceability and blockchain-based traceability, on consumer purchase behavior. Additionally, explored the moderating effects of brand reputation and electronic word-of-mouth (eWOM).
- Applied **LDA topic modeling** to conduct **text mining** on 14,000 product review text data points from e-commerce platforms, constructing an attention evaluation index for user topic focus.

## AWARDS

<b>Outstanding Undergraduate Graduate (¥1,500)</b>	Xi'an, China
Honor Awarded to Top Graduating Students, Xidian University	Jun. 2026
<b>XDU-VT Joint Program Scholarship (\$1,000)</b>	Blacksburg, United States
Merit Scholarship, Xidian University & Virginia Tech Joint Program	May 2026
<b>Selected Participant, AI for Business Summer School</b>	Hefei, China
Summer School in <i>University of Science and Technology of China</i>	Jul. 2025
<b>Selected Participant, Tsinghua Interdisciplinary Research Enhancement Program</b>	Beijing, China
<i>Tsinghua</i> Workshop on Big Data and Causal Inference, Computational Social Science and State Governance Lab	Jun. 2025
<b>Silver Award of China International College Students' Innovation Competition</b>	Tianjin, China
Project Name: Smartphone-based Navigation Glasses for the Blind	Jan. 2024
<b>First-class Scholarship from Xidian University (¥1,500)</b>	Xi'an, China
First Class Honors in Comprehensive Performance	Sep. 2023

## SKILLS

- **Programming Languages:**
  - Proficient: Python, SQL
  - Familiar: Spark, Hadoop, Selenium
- **Data Analysis Tools & Software:**
  - Proficient: Stata, LIWC, MySQL, PowerBI, Cursor
  - Familiar: UCInet
- **Frameworks & Big Data Technologies:**
  - Proficient: PyTorch, Scrapy, Pandas, NumPy, DuckDB
- **Languages:**
  - Mandarin (Native)
  - English (IELTS 6.5)
- **Standardized Tests:**
  - GRE: Verbal 162, Quantitative 166