

## RESEARCH INTERESTS

I obtained my Ph.D. in Innovation Management, with a research focus on the full cycle of “Research Collaboration – New Knowledge Creation – Patenting – Commercialization.” My expertise lies in applying Natural Language Processing (NLP) and Large Language Models (LLMs) to the preprocessing and analysis of large-scale textual corpora, including web pages and patent documents. In addition, I explore topics in economic geography, particularly knowledge spillovers and the development of regional innovation ecosystems, employing tools such as ArcGIS for spatial analysis. My specific research interests include, but are not limited to:

- Regional innovation systems and regional economic transformation
- University-driven knowledge spillovers to high-tech startups
- Regional green innovation and low-carbon development
- Construction of patent novelty and impact indicators
- Applications of LLMs in innovation management
- Urban development & landuse, and innovation ecosystem

## EDUCATION

### University of Tokyo

Tokyo, Japan

Doctor of Engineering in Technology Management for Innovation

Apr 2022 – Mar 2025

Advisor: Prof. Motohashi Kazuyuki

Thesis: *Semantic Change-Driven Patent Innovation Measurement: Integrating Content and Citation Network Indicators and Its Empirical Study on Market Value*

### Beijing University of Posts and Telecommunications

Beijing, China

Master of Engineering in Computer Science & Information Security

Sept 2017 – Jun 2020

Advisor: Prof. Yang Wenchuan

Thesis: *Discovery and Research of Frequent Item in Interdiscipline Based on Deep Learning*

### Beijing University of Posts and Telecommunications

Beijing, China

Bachelor of Engineering in Computer Science & Information Security

Sept 2013 – Jun 2017

Advisor: Prof. Liu Liang

Thesis: *Design and Implementation of Chaotic Compressive Sensing Algorithm*

## JOURNAL PUBLICATIONS

(\* As corresponding author)

1. **Q. Zhao\*** and L. Fan, “The triple power play: Green finance, green innovation, and renewable energy in transforming China’s carbon footprint,” *Applied Economics Letters*, vol. 0, no. 0, pp. 1–6, **JCR Q3, ABS1**.
2. Y. Yang, L. Wei, and **Q. Zhao**, “Fast and “furious”: 24h pharmacy empathy in online reviews,” *Kybernetes*, **JCR Q2, ABS1** (R4 minor revision).
3. **Q. Zhao**, W. Wu, Y. Ge, and J. Xu, “Can intellectual property protection policy enhance enterprise innovation capability? Quasi-natural experimental study,” en-US, *International Review of Financial Analysis*, vol. 103, p. 104 163, Jul. 2025, **JCR Q1, ABS3**.
4. **Q. Zhao\***, L. Fan, H. Chen, Y. Yang, and Z. Wang, “Green innovation and carbon emission reduction: Empirical insights from spatial durbin and dynamic threshold models,” *International Review of Financial Analysis*, vol. 101, p. 103 997, May 2025, **JCR Q1, ABS3**.
5. Y. Yang, L. Wei, L. Fan, and **Q. Zhao\***, “Charting the path to consumer satisfaction: An innovative investigation into fresh e-commerce through text mining and spatiotemporal analysis,” *E+M *Ökonomie a Management**, pp. 1–21, 2025, **JCR Q3**.
6. H. Chen and **Q. Zhao\***, “Exploring the voice of inbound tourists: A study on the perceived image of ethnic-minority village tourism with impact on satisfaction,” *Journal of Quality Assurance in Hospitality & Tourism*, no. 0, pp. 1–24, 2025, **ABS1**.
7. X. Liu and **Q. Zhao\***, “Banking competition, credit financing and the efficiency of corporate technology innovation,” *International Review of Financial Analysis*, p. 103 248, Mar. 2024, **JCR Q1, ABS3**.

	<ol style="list-style-type: none"> <li>8. Z.-l. Teng, C. Guo, <b>Q. Zhao*</b>, and M. S. Mubarik, "Antecedents of green process innovation adoption: An AHP analysis of China's gas sector," <i>Resources Policy</i>, vol. 85, p. 103 959, Aug. 2023, <b>ABS2</b>.</li> <li>9. W. Yang, R. Hua, and <b>Q. Zhao*</b>, "A sequence-to-sequence traffic predictor on software-defined networking," <i>International Journal of Web and Grid Services</i>, vol. 17, no. 3, pp. 268–291, Jan. 2021, <b>JCR Q4</b>.</li> </ol>
CONFERENCE PUBLICATIONS	<ol style="list-style-type: none"> <li>1. W. Yang, R. Hua, and <b>Q. Zhao</b>, "Sequence Generative Adversarial Network for Chinese Social Media Text Summarization," in <i>2019 Chinese Automation Congress (CAC)</i>, ISSN: 2688-092X, Nov. 2019, pp. 4620–4625.</li> <li>2. W. Yang, <b>Q. Zhao</b>, and R. Hua, "Design and Implementation of Application Classification Based on Deep Learning," in <i>2019 Chinese Automation Congress (CAC)</i>, ISSN: 2688-092X, Nov. 2019, pp. 4821–4826.</li> <li>3. W. Yang, <b>Q. Zhao</b>, and R. Hua, "A Method for Massive Scientific Literature Clustering Based on Hadoop," in <i>2019 Chinese Automation Congress (CAC)</i>, ISSN: 2688-092X, Nov. 2019, pp. 5518–5523.</li> <li>4. <b>Q. Zhao</b>, W. Yang, and R. Hua, "Design and Research of Composite Web Page Classification Network Based on Deep Learning," in <i>2019 IEEE 31st International Conference on Tools with Artificial Intelligence (ICTAI)</i>, ISSN: 1082-3409, Nov. 2019, pp. 1531–1535.</li> <li>5. <b>Q. Zhao</b> and W. Yang, "Multi-label classification of technical articles based on deep neural network," in <i>2019 Chinese Control Conference (CCC)</i>, Guangzhou, China: IEEE, Jul. 2019, pp. 8391–8397.</li> </ol>
WORKING PAPERS	<ol style="list-style-type: none"> <li>1. <b>Q. Zhao</b> and K. Motohashi, "Tracking semantic changes with contextual embeddings: A simple, stable, and interpretable method," Under review of <i>ICML2025</i>.</li> <li>2. <b>Q. Zhao*</b> and K. Motohashi, "Identifying the creation and impact of new technologies based on semantic change detection and diachronic word embedding," Under preparation.</li> <li>3. K. Motohashi and <b>Q. Zhao*</b>, "University as a Knowledge Source of Innovation: A spatial analysis of the impact on local high-tech startup creation," Research Institute of Economy, Trade and Industry (RIETI), Discussion paper, Apr. 2023, accepted in <i>AOM2025</i>.</li> </ol>
RESEARCH PROJECTS	<p><b>Research Institute of Economy, Trade and Industry (RIETI)</b> <span style="float: right;">2022.09 – 2025.03</span>  Research Assistant</p> <ul style="list-style-type: none"> <li>· Innovation Discovery Model(2024, JSPS)</li> <li>· Geographical Distribution of Digital Innovation (2023, JSPS)</li> <li>· IP System and Technology Catching Up: China, India and Thailand(2022, JSPS)</li> </ul> <p><b>Beijing Academy of Science and Technology</b> <span style="float: right;">2017.09 – 2019.04</span>  Research Assistant</p> <ul style="list-style-type: none"> <li>· Disciplinary Knowledge Convergence and New Discipline Prediction System (2019)</li> <li>· Scoring and Recommendation System for Frontier Scientific and Technological Literature (2018)</li> <li>· Design and Research on New Knowledge Discovery System for Disciplinary Disciplines (2018)</li> <li>· Extraction of Textual Viewpoints and Management System for Chinese Internet (2017)</li> </ul> <p><b>China Information Technology Security Evaluation Center</b> <span style="float: right;">2017.01 – 2017.10</span>  Research Assistant</p>
AWARDS	<ul style="list-style-type: none"> <li>• Japanese Government (MEXT) Scholarship. <span style="float: right;">2021 – 2025</span></li> <li>• KAGGLE big data, Jigsaw Unintended Bias in Toxicity Classification top9(Bronze). <span style="float: right;">2019</span></li> <li>• IFLYTEK big data, Competition Shortlisted Award(4/960). <span style="float: right;">2019</span></li> <li>• First and Second Class Scholarship in BUPT. <span style="float: right;">2014 – 2019</span></li> <li>• Graduation Thesis Award for Outstanding Undergraduates. <span style="float: right;">2017</span></li> <li>• Triple-A Student of BUPT. <span style="float: right;">2014 – 2018</span></li> <li>• The Second Prize of the China Undergraduate Mathematical Contest in Modeling. <span style="float: right;">2015</span></li> </ul>
SKILLS	<p><b>Programming</b> C, Java, Python, Javascript, R</p> <p><b>Tools</b> Git, Adobe Illustrator, Prezi, ArcGis, Matlab, Mathematics, <math>\LaTeX</math></p> <p><b>Languages</b> Chinese, English (GRE 336), Japanese</p>

**Journal Reviewer** *Technological Forecasting and Social Change* (JCR Q1, ABS3), *Humanities and Social Sciences Communications* (JCR Q1), *PLOS ONE* (JCR Q1), *International Review of Financial Analysis* (JCR Q1, ABS3), *Financial Innovation* (JCR Q1, ABS2), *Heliyon* (JCR Q1), *Asia Pacific Journal of Marketing and Logistics* (JCR Q2, ABS1), *Applied Economics Letters* (JCR Q3, ABS1), *AOM Annual Meeting*