

# JUNHAN ZHANG

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## EDUCATION

### Tongji University

*Master of Science in Management*

Sep. 2021 – Present

GPA: 89.68/100

Core Modules: Econometrics, Big Data Analytics, Strategic Management of Innovation and Intellectual Property

### RWTH Aachen University

*Exchange Student*

Oct. 2023 – Apr. 2024

GPA: 2.0/5.0

Core Modules: Predictive Analysis, Introduction to Programming in Business Analytics, Economics of Technological Diffusion

### Tongji University

*Bachelor of Science in Geophysics*

Sep. 2017 – Jun. 2021

GPA: 84.31/100

Core Modules: Numerical Analysis, Mathematical Physics Methods, Signal Processing, Software Development Basics

**Honors & Awards:** Merit Scholarship, 2018

## PUBLICATION

### Under revision at *Research Evaluation*:

Thematic similarity as a mediator of the cumulative advantage in research output: An analysis of NSFC projects

*Junhan Zhang, Xuhua Chang, Hairui Liu\*, Wenjing Yao*

## RESEARCH EXPERIENCE

### Master Thesis: Study on the Mechanism between Chinese University Faculty Members' Publishing and Patenting Activities

Advisor: Xuhua Chang

Oct. 2022 - Present

- Developed a comprehensive Python project that involved collecting, cleaning, and pairing over 2,000 patents and 10,000 journal publications associated with 2,312 NSFC projects across 3 Chinese Universities completed during 2017-2021 from multiple data sources. Compiled and stored the data in a MySQL database.
- Utilized PyTorch and SciBERT to calculate the text similarity between patent-publication pairs, generating thematic concentration indicators for NSFC projects.
- Employed OLS and mediation models to investigate the causal relationship between the quantity and quality of project outputs of Chinese university faculty members within similar research scope. Discussed the influencing factors of the quality of research outputs, which indicated a chain of mediation effects between project budget, thematic concentration, quantity and quality of research outputs.
- Offered optimization recommendations for both university faculty members and policymakers, enriching theoretical understanding and providing practical guidance for enhancing research project management.

### Project: University Faculty Information Database

Advisor: Xuhua Chang

Oct. 2020 – Present

- Used Python and BeautifulSoup to scrape university faculty members' curriculum vitae, including their publications, patents and projects, alongside with their image from over 40 Chinese universities.
- Conducted facial recognition and gender identification on images of over 10,000 teachers from five universities based in Shanghai.
- Individually assign unique identifiers to faculty members, their papers, and patents, place them in separate database tables, and establish connections between them.

### Project: Analysis on Yangtze River Delta Vaccine Industry

Advisor: Xuhua Chang

Dec. 2021 – Aug. 2022

- Conducted comprehensive research on COVID-19 vaccines, gathering clinical and market data, and monitoring updates from trials and regulatory approvals.
- Collected and curated relevant patent information using over 20 targeted keywords, ensuring accuracy and relevance through cross-referencing with industry standards.
- Analyzed patent owners' core businesses, financials, and technical roadmaps, presenting findings in detailed research reports to inform strategic decision-making.

## Project: Study on the National Laboratory Mechanisms and Construction Management

Advisor: Xuhua Chang

Mar. 2021 – Jun. 2022

- Reviewed the development processes, evolution paths, and key initiatives of major global tech-innovation cities to assess the significance of scientific and technological progress on urban development.
- Conducted a country-specific analysis of science and technology infrastructure across three levels: national laboratories (mission, management, projects, and outcomes), functional platforms (field layout, roles, operations, and performance evaluation), and large-scale scientific facilities (distribution and lifecycle management).
- Based on the experiences of international innovation centers and advanced countries' tech infrastructure, proposed short-term planning tasks for the 14th Five-Year Plan and long-term development trends for science and technology infrastructure leading up to 2035.

## Undergraduate Thesis: Seismic Stratigraphy Interpretation of Submarine Canyons in Otway Basin, Southern Australia

Advisor: Nan Wu, Guangfa Zhong

Nov. 2020 - Oct. 2021

- Investigated the relationship between submarine canyons and submarine landslides in Otway Basin, southern Australia, using three-dimensional seismic data, seismic stratigraphy, and seismic geomorphology.
- Constructed seismic sequence frameworks and identified key seismic horizons and units in two study areas, classifying and interpreting main seismic facies such as submarine canyon, turbidity current deposition, massive transport complex, and alternated hemipelagic sediments and turbidites.
- Generated time structure maps and variance body attribute slices to analyze sedimentary types and spatial distribution characteristics, discussing the interaction between submarine canyons and landslides and their impact on the canyons' development and evolution.

## WORK EXPERIENCE

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### 1Token

Nov. 2022 – Mar. 2023

*Growth Data Intern*

Shanghai, China

- Assisted in building and maintaining business databases.
- Collected data from various sources, including Google News, existing databases, and LinkedIn Sales Navigator, to track incremental customer information.
- Established automated processes for connecting with relevant personnel from about 200 incremental companies.
- Collected financing information for approximately 50 friendly companies, identified around 300 potential investors, and categorized them.
- Maintained database contacts through automated processes, which were highly appreciated by superiors.
- Designed and implemented various automation processes, including Gmail mass emailing, LinkedIn profile scraping, Telegram mass messaging, and Crunchbase scraping using RPA.

### Elsevier

May 2022 – Sep. 2022

*Product Manager Intern*

Beijing, China

- Conducted requirements gathering and analysis.
- Monitored the monthly search records of over 3,000 users and analyzed usage patterns.
- Collected and supplemented over 2,000 pieces of dosage, instructions, batch numbers, and related pharmaceutical book information.
- Conducted user surveys to understand user experiences and needs, providing feedback and improvement suggestions.

## SKILLS

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- **Programming** : C/C++, Python (NumPy, pandas, PyTorch, BeautifulSoup), R, MATLAB, SQL, Stata, LaTeX
- **Languages** : Chinese (Mandarin, Native), English (Proficient, C1 level, TOEFL/109)