

# **Yujun Wang**

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#### WORK EXPERIENCE

11/2023 - CURRENT Beijing, China

INTERN IN EDUCATIONAL LARGE MODELS AND LEARNING ANALYTICS NATIONAL ENGINEERING RESEARCH CENTER FOR CYBERLEARNING AND INTELLIGENT TECHNOLOGY

- Designed and optimized prompt engineering strategies using large language models (LLMs) (e.g., GPT-4V) to generate structured **step-by-step instructions** and select actions from a predefined **action pool**, enhancing the model's ability to process **complex tasks** in **dynamic environments**.
- Evaluated model performance by comparing generated plans with ground truth datasets, leveraging task success rate, accuracy, and semantic similarity metrics (e.g., ROUGE, BLEU, F1-score) to measure multimodal reasoning capabilities in scientific experiment recognition.
- Co-authored a research paper on applying multimodal LLMs (integrating text and image modalities) to recognize and understand practical scientific experiments, demonstrating the potential of LLMs in automated experimental systems.

04/2024 - 07/2024 Anshun, Guizhou, China

#### **ASSISTANT TO PRINCIPAL ZIYUN SECOND MIDDLE SCHOOL**

- Designed and led a six-day digital literacy workshop for 300+ teachers, covering curriculum design, data collection, and analysis techniques, enhancing their ability to integrate digital tools into teaching.
- Mentored and coached over 20 teachers in classroom competitions, leading to significant improvements in teaching quality, instructional strategies, and student engagement.

#### EDUCATION AND TRAINING

09/2022 - 07/2025 Beijing, China

M.A. IN LINGUISTICS AND APPLIED LINGUISTICS Beijing Normal University

- Focused on automatically extracting annotation content from Ancient Chinese texts, creating structured representations for better analysis.
- Developed advanced deep learning methods to recognize citation patterns in classical literature, aligning them with modern interpretations, helping bridge the gap between ancient and contemporary understanding of texts.

Website <a href="https://english.bnu.edu.cn/">https://english.bnu.edu.cn/</a> | Field of study Computational Linguistics | Final grade GPA: 3.8/4.0 (Top5%) |

Thesis Semantic Network Construction and Citation Pattern Recognition for Ancient Chinese Texts

09/2018 - 06/2022 Taiyuan, China

B.A. IN CHINESE LANGUAGE AND LITERATURE Shanxi University

Website <a href="https://www.sxu.edu.cn/">https://www.sxu.edu.cn/</a> | Final grade GPA:87/100 (Top10%)

### LANGUAGE SKILLS

Mother tongue(s): CHINESE

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production Spoken interaction		
ENGLISH	C1	C1	C1	C1	C1
GERMAN	B1	B1	B1	B1	B1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

#### DIGITAL SKILLS

Microsoft Excel | Microsoft Powerpoint | Google Drive | Microsoft Office | programming: Python, MATLAB and SQL | Praat bioacoustical analyses software.

#### HONOURS AND AWARDS

2024

First-Prize Scholarship, Beijing Normal University

2022

Outstanding Undergraduate Award(Top 1%), Shanxi University

### CONFERENCES AND SEMINARS

Third Prize in Large-Scale Model-Based Spatial Semantic Evaluation Task | Chinese Association for Computational Linguistics(CCL)

- Huo Shitu, **Wang Yujun**, and Wu Tongjie. 2024. Chinese spatial semantic evaluation based on large language model. In Proceedings of the 23rd Chinese National Conference on Computational Linguistics (Volume 3: Evaluations), pages 95–105, Taiyuan, China. Chinese Information Processing Society of China.
- Summarized large model API calls using basic, workflow, and chain-of-thought prompts. Ranked 6th out of 12 teams with 56.20% accuracy.

Link <a href="https://aclanthology.org/2024.ccl-3.11/">https://aclanthology.org/2024.ccl-3.11/</a>

07/2023 Beijing

Academic Workshop on Digital Humanities and Reading Leveling-The Role of Vocabulary Knowledge in Children's Reading Comprehension

Designed and conducted **experimental studies** to analyze how children interpret and disambiguate **polysemous words**, examining the impact of **semantic context and lexical access speed**.

Applied **psycholinguistic and statistical analysis methods** to measure the relationship between **vocabulary depth**, **lexical retrieval efficiency**, **and reading fluency**.

Utilized eye-tracking, reaction time experiments, and corpus-based semantic analysis to assess cognitive processing strategies in word recognition.

#### PROJECTS

05/2024 - 05/2025

Automatic Exegesis Annotation System for Classical Chinese Poetry(Master's Thesis)

- Developed an **automatic citation-based exegetical annotation system** that integrates **phonetic and semantic similarity measurement, allusion detection, and prosodic modeling**, enabling **automated labeling of quoted exegesis content** in literary texts.
- Applied **BERT-based semantic modeling, acoustic signal analysis, and machine learning techniques** to refine annotation accuracy, enhancing the system's ability to **recognize literary allusions and interpret poetic imagery**.
- Conducted **phonetic feature extraction** and **acoustic modeling** to analyze **prosodic and articulatory properties** in historical Chinese texts, addressing variations in pronunciation and literary expression.

06/2021 - 11/2021

- Conducted a **dialect survey project** focusing on the **acoustic characteristics of Shandong dialects**, analyzing **regional phonetic variations** such as **formant frequencies**, **pitch contours**, **and duration patterns**.
- Collected and processed **speech data from native Shandong dialect speakers** using **Praat** and **MATLAB**, applying **acoustic signal analysis** to identify phonetic distinctions.
- Implemented spectral analysis, formant tracking, and pitch extraction techniques to quantify prosodic and articulatory variations across different regions of Shandong.

10/2024 - 02/2025

Exploring Knowledge Conflicts and selection preferences in LLMs through Document Features (Research topic with oversea supervisor-Dr.Markert in Heidelburg University)

- Investigated **critical gaps** in how **large language models (LLMs)** handle **knowledge conflicts** across **single-language and multilingual settings**, addressing challenges in **source credibility assessment**, **cross-cultural reconciliation**, and **conflict resolution strategies**.
- Analyzed the limitations of existing techniques such as **instruction tuning**, **prompt engineering**, **and retrieval-augmented generation (RAG)** in balancing **conflicting evidence from diverse sources**.
- Extended analyses to multilingual (Thakur et al., 2024; Chirkova et al., 2024) and low-resource settings, enhancing the robustness and interpretability of LLMs in globally diverse knowledge environments.

### VOLUNTEERING

04/2023 - 07/2023 Hunan, China

Beijing PEER Yihheng Friends County High School (Suining No. 1 High School, Shaoyang City, Hunan Province - Project Mentor)

- Independently designed and developed the "Art in the Neighborhood" series of course resource packages, integrating local cultural studies, artistic exploration, and community engagement.
- Led and mentored over 20 county high school students in a 15-day summer camp, facilitating field research, creative workshops, and collaborative projects in Dayuan Ancient Miao Village.

07/2023 - 08/2023 Bangkok

Beijing Normal University Jingshi Competence Summer Training and Research Camp

- Participated in a field study on international education and sustainable development, traveling with team members to key institutions including the Southeast Asian Ministers of Education Organization (SEAMEO) in Bangkok, UNESCO Bangkok Office, Thai Royal Foundation, and Asian Institute of Technology (AIT).
- Analyzed the implementation strategies of the United Nations Sustainable Development Goals (SDGs), particularly in education, sustainability, and cross-border cooperation.



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# PhD Position within the VoCS – Voice Communication Sciences program

14-03-2025

To whom it may concern,

I am writing to express my strong interest in the PhD position within the VoCS – Voice Communication Sciences program. My academic background in computational linguistics, speech processing, and experimental phonetics has provided me with a solid foundation for investigating the acoustic and physiological underpinnings of vocal traits, speaker identity, and emotional states. I am particularly excited by this opportunity to combine instrumental phonetics, computational modeling, and behavioral experiments to develop robust models of voice characteristics.

During my Master's studies at Beijing Normal University, my research has focused on the computational analysis of speech and textual semantics. Specifically, I worked on automatic citation-based exegetical annotation, applying phonetic feature extraction, acoustic modeling, and statistical analyses to measure the prosodic and articulatory properties of historical Chinese texts. This research required me to navigate phonetic and articulatory variations, leveraging BERT-based semantic modeling, acoustic signal analysis, and machine learning techniques to refine annotation accuracy. Through this experience, I have developed strong quantitative and computational modeling skills, which are directly applicable to the acoustic and computational modeling of vocal traits and states outlined in this PhD project.

Beyond computational approaches, I have actively engaged in speech-related experimental research involving human participants. I conducted a double-blind annotation experiment, where human annotators assessed phonetic variations in speech samples, providing me with hands-on experience in experimental design, inter-annotator agreement measurement, and statistical analysis of perceptual judgments. Additionally, I have worked on dialect surveys where I gathered and analyzed speech data using Praat and MATLAB, focusing on acoustic features such as formant trajectories, spectral tilt, and pitch contours. These experiences have equipped me with the necessary skills to contribute to the perception and behavioral experiments on vocal traits in this PhD project.

My technical expertise further strengthens my suitability for this position. I have taken advanced coursework in speech processing, machine learning, and signal analysis, and I am proficient in Python, MATLAB, and Praat. In an NLP and speech processing project, I implemented a machine learning model using Python and TensorFlow to analyze speech signals, involving acoustic feature extraction, classification algorithms, and deep learning architectures. Additionally, I participated in a Chinese semantic evaluation competition, where my team developed computational models to analyze voice-based sentiment cues. Given that this PhD project requires statistical modeling, computational speech processing, and acoustic data analysis, I am eager to contribute my skills to the instrumental modeling of vocal anatomy using MRI, electroglottography (EGG), and acoustic modeling techniques.

Furthermore, my international research experiences have prepared me to work effectively in multinational and interdisciplinary teams. I participated in a research exchange at Heidelberg University, where I collaborated with researchers on knowledge conflict resolution in multilingual speech corpora, refining my cross-linguistic phonetic analysis skills. Additionally, my work with UNESCO in Thailand involved cross-cultural speech perception research, reinforcing my ability to adapt to diverse academic and linguistic environments. Given that this PhD project includes two international secondments at audEERING GmbH (Germany) and the Technical University of Munich, I am confident that my prior experience in international collaborations will allow me to integrate seamlessly into this network.

I am particularly drawn to this PhD position because of its unique combination of acoustic modeling, instrumental phonetics, and computational analysis of vocal production and perception. I am eager to explore how real-time vocal tract MRI and electroglottography (EGG) can be used to model paralinguistic aspects of phonation and articulation, and how these physiological insights can inform improvements in voice synthesis technologies. The opportunity to develop computational models of vocal traits based on instrumental measures aligns closely with my research interests in speech identity processing, speaker individuality, and phonetic modeling.

In summary, I am confident that my strong background in computational linguistics, phonetic analysis, speech processing, and machine learning makes me a well-suited candidate for this PhD position. My prior experience in acoustic modeling, perceptual speech experiments, and international research collaborations will allow me to contribute to and thrive within the VoCS research network. I would welcome the opportunity to further discuss how my skills and research interests align with your program.

Thank you for your time and consideration.

Yours sincerely, Yujun Wang



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# Referees

# Yujun Wang

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Tel: +86 13027000629

Name: Zhiying Liu (Academic Advisor)

Institution: School of international Chinese Language Education at BNU

**Position:** Lecturer

Contact: <a href="mailto:liuzhy@bnu.edu.cn">liuzhy@bnu.edu.cn</a>

Name: Binbin Qi (Internship Supervisor)

Institution: National Engineering Research Center for Internet Educational Intelligent

**Technologies and Applications** Position: Postdoctoral Fellow

Contact: qidoublebins@bnu.edu.cn