QI Yu

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Education

Zhejiang University, B.A., English(Linguistics) Sept 2021–June 2025

- GPA: 3.94/4.00
- Coursework: Psycholinguistics (99), Introduction to Cognitive Neuroscience (95), Signals and Systems in Psychology (94), Elements of Bayesian Statistics (93), Modern Linguistics (93)

Zhejiang University, M.A., Linguistics 2025 Fall

- Concentrations: Neurolinguistics, Psycholinguistics
- Supervisor: Prof.YANG Jing

Research Experience

Research Center for Life Science Computing, Zhejiang Lab

Research Assistant April 2024-present

Supervisor: Dr.LUO Cheng

- Currently working as an assistant on the project "Analysis of Human Auditory Cognitive Mechanisms and Evaluation of Brain-Like Performance in Auditory Models"
- 4th author of patent "Professional Domain Database Retrieval Method, Electronic Equipment and Media based on Knowledge Enhancement of Large Language Model"[基于大语言模型知识增强的专业领域数据库检索方法、电子设备、介质] (pending)
- Contributing to multimodal dataset development, including EEG, EOG, fMRI data acquisition from over 40 participants
- Utilized LM Studio for local model deployment, retrieved open-source models such as Qwen, Llamba, and BAAI BGE from Hugging Face, interacted with the models via an API server, and completed tasks such as word embeddings extraction
- **Tools Used:** MATLAB, Psychtoolbox, EEG, fMRI

Covid-19 English Neologisms Database Consturction and Word-Formation and Semantics Studies[基于语料库的新冠英语新词数据库建设及其构词和语义研究], Student Research Training Program (SRTP)

Group Member (2-person team) April 2023–April 2024

Supervisor: Prof.SHAO Bin

- **National level SRTP, granted highest level of SRTP funding**
- Collected 1,400 news articles related to COVID-19 from January 1, 2021, to June 30, 2023 and Used the NLTK and spaCy toolkits to process the texts and extract new words
- Created a neologism database that included information on usage frequency, domain of use, word formation process, definitions, examples, etc.
- Applied cognitive linguistics theories, such as Conceptual Integration Theory, to explore how the metaphorical and metonymic properties and polysemy of vocabulary reflect public perceptions and responses during the COVID-19 pandemic
- **Tools Used:** Python, SpaCy, NLTK

Course Projects

Functional Connectivity of resting state Language Networks in Patients with Autism Spectrum Disorders

Introduction to Cognitive Neuroscience June 2024

- Used ABIDE-II datasets and pre-processed the rs-fMRI data of 48 participants (22 TCs and 26 ASDs); Selected ROIs and conducted seed-based functional connectivity analysis with CONN
- Results showed significant differences in the left pSTG functional connectivity between the ASD group and the control group (p-FDR<0.05), ASD group exhibited atypical brain lateralization in the ASD group, supporting previous research findings
- **Tools Used:** MATLAB, SPM, CONN

Does Interactional Context during Comprehension Modulate Bilingual's Cognitive Control?

Psycholinguistics June 2024

- Adopted a dual-task paradigm proposed by Adaptive Control Hypothesis (ACH) that included a language comprehension trial to create the three interactional contexts (single language, dual language and dense code-switching) and a non-linguistic task (i.e., a non-verbal Flanker task)
- Coded the experiment using Psychopy and Collected behavioral data (RT and Acc) from 28 participants; Used repeated-measures ANOVA to analyze the Flanker Effect and overall RT across the three contexts
- **Tools Used:** Psychopy, SPSS

Awards & Certifications

Zhejiang University Third Prize Scholarship 2024

National Level Student Research Training Program (SRTP) 2024
Granted the highest level of SRTP funding and recognized for outstanding project completion

Zhejiang University Global Engagement Program(GEP) 2021
Honor Class of 2025

Skills

Progamming: Python(pandas, numpy, matplotlib, seaborn, sklearn, scipy), R, MATLAB, LaTeX

Packages: Psychopy, Psychtoolbox, Nilearn, SPM, CONN, JAGS (bayesian modelling)

Methods: behavioral; EEG(conducting and data anallysis);fMRI(conducting and data analysis)

Languages: Chinese(native), English(fluent), German(beginner)