# Wei Zhou

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## Education

**PhD student, Computer Science, University of Augsburg / Bosch** March 2023 – Feb 2026
Research Areas: Natural Language Processing, Tabular Data Reasoning, AI Agent
Supervisor: Prof. Dr. Annemarie Friedrich

**M.Sc., Computational Linguistics, University of Stuttgart** Oct 2020 – Feb 2023
Thesis: Analysis and Applications of Explanatory Signals from Prompt-Based Models, mark: 1.0 (very good)

**M.A., Linguistics (Research), University of Amsterdam** Sept 2019 – Sept 2020

**B.A., Translation, Zhejiang University of Technology** Sept 2015 – June 2019

## Internships and Work Experience

**PhD student**, Bosch – Renningen, Germany March 2023 – Feb 2026
Researching and improving the capabilities of large language models in tabular data reasoning.

**Working Student**, Bosch – Renningen, Germany July 2021 – May 2022
Assisting in project focusing on relation extraction and understanding for ontology and hierarchical product data.

**Intern Associate Consultant**, Fragomen – Shanghai, China Sept 2018 – Dec 2018
Assisting in immigration and requesting work/resident permits.

## Projects & Publications

**2025**

**PPT**: a process-based preference learning framework for table question answering. Models after fine-tuned with the proposed framework achieve competitive results compared to more complex and larger state-of-the-art systems, while being five times more efficient during inference. (Paper)
- ***keywords***: *self-learning, post-training, process supervision*

**FRES**: Investigating the effectiveness of different table representations under various conditions and proposing a pipeline for real-world applications. The pipeline brings 10% average performance improvements compared to base methods. (Paper | Code)
- ***keywords***: *benchmark*, *(multi-modal) LLM*, *evaluation*

**MACT**: Proposing an efficient multi-agent collaboration framework with tool use for complex table question answering. The proposed framework outperforms previous SoTA without any fine-tuning. (Paper | Code)
- ***keywords***: *agent*, *tool use*, *online planning*, *complex reasoning*

**Pragmatics Survey**: Providing the first comprehensive survey for pragmatics research in the era of large language models. (Paper)
- ***keywords***: *pragmatics*, *data construction*, *evaluation*, *taxonomy*

**2024**

**FREB-TQA**: Proposing a fine-grained robustness evaluation benchmark for table question answering and benchmarking various systems. (Paper | Code)
- ***keywords***: *robustness*, *dataset*, *benchmarking*,

**Explainability in Low-Resource Settings**: Analyzing attribution scores extracted from prompt-based models w.r.t. plausibility and faithfulness and comparing them with scores extracted from fine-tuned models and large language models. (Paper)

- ***keywords***: *explainability*, *attribution scores*, *low resource*

**2023**

**Evidence Retrieval**: Introducing a new benchmark for evidence retrieval in question answering to evaluate models' trustworthiness. (Paper)

- ***keywords***: *hallucination*, *benchmark*

**Semantic Change Detection**: Investigating the hypothesis that enriching contextualized models using fine-tuning tasks can improve their capacity to detect lexical semantic change. (Paper)

- ***keywords***: *adapter*, *lexical semantic change*, *fine-tuned models*

**2021**

**Distributional Semantic Models in Philosophical Data**: Investigating the possibilities and limitations of using distributional semantic models for analyzing philosophical data by means of a realistic use-case. (Paper)

- ***keywords***: *philosophical data*, *distributional semantics*

**Contextual/Static Word Embeddings**: Comparing ELMo and Word2Vec models trained/finetuned on philosophical data. (Paper)

- ***keywords***: *philosophical data*, *word embeddings*

## Skills

**Programming Languages:** Python, Java

**Languages:** Chinese (native), English (frequent in writing and speaking), German (basic).

**General Abilities:** benchmarking, data analysis, model fine-tuning/deployment, agent design, RAG

**Frameworks and Tools:** Pytorch, Keras, scikit-learn, GIT, Hugging Face Transformers, spaCy, NLTK, VLLM

**Hobbies:** drumming, piano, hiking, traveling, reading, photography