

# Zhiwei He (何志威)

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## About me

I am a forth-year PhD student (2021 - present) of Department of Computer Science and Engineering at Shanghai Jiao Tong University (SJTU). I am fortunate to be advised by Prof. Rui Wang. Before that, I received the bachelor degree in Software Engineering from South China University of Technology (SCUT). I am currently a research intern at Tencen AI Lab, co-advised by Dr. Xing Wang and Dr. Zhaopeng Tu.

## Research Overview

### Autonomous Agent powered by Large Language Models

- 📖 Multi-agent debate. [EMNLP 2024]
- 📖 Evaluating and improving agent safety. [EMNLP 2024 (Findings)]

### Multilinguality & Machine Translation

- 📖 Bridging the gap between training signal and real user input. [ACL 2022]
- 📖 Human-like translation strategy. [TACL 2023]
- 📖 Improving translation with human feedback. [NAACL 2024]
- 📖 Cross-lingual consistency for text watermark [ACL 2024 (Oral)]

## Education

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|----------------|--|
| 2021 – present | 📖 <b>PhD, Shanghai Jiao Tong University</b> Computer Science.<br>Supervisor: Rui Wang                  |
| 2017 – 2021    | 📖 <b>BSc, South China University of Technology</b> Software Engineering.<br>Ranking: 1/252   GPA: 3.91 |

## Internship

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|----------------|---|
| 2021 – present | 📖 <b>Tencent AI Lab</b> Research Intern<br>Mentors: Xing Wang & Zhaopeng Tu |
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## Awards & Competitions

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|------------|--|
| 2022       | 📖 1st place in the WMT22 General Translation Task, English to Livonian (Unconstrained System). |
|            | 📖 2nd place in the WMT22 General Translation Task, Livonian to English (Unconstrained System). |
| 2018, 2019 | 📖 First Class Scholarship.   |













## Selected publications

\* denotes co-first authors

### Journal Article

- **Exploring Human-Like Translation Strategy with Large Language Models**  
Zhiwei He\*, Tian Liang\*, Wenxiang Jiao, Zhuosheng Zhang, Yujiu Yang, Rui Wang, Zhaopeng Tu, Shuming Shi, Xing Wang  
TACL 2023 | PDF  | Github  | Media 

### Conference Proceedings

- **R-Judge: Benchmarking Safety Risk Awareness for LLM Agents**  
Tongxin Yuan\*, Zhiwei He\*, Lingzhong Dong, Yiming Wang, Ruijie Zhao, Tian Xia, Lizhen Xu, Binglin Zhou, Fangqi Li, Zhuosheng Zhang, Rui Wang, Gongshen Liu  
EMNLP 2024 (Findings) | PDF  | Github 
- **Encouraging Divergent Thinking in Large Language Models through Multi-Agent Debate**  
Tian Liang\*, Zhiwei He\*, Wenxiang Jiao\*, Xing Wang, Yan Wang, Rui Wang, Yujiu Yang, Zhaopeng Tu, Shuming Shi  
EMNLP 2024 | PDF  | Github 
- **Can Watermarks Survive Translation? On the Cross-lingual Consistency of Text Watermark for Large Language Models**  
Zhiwei He\*, Binglin Zhou\*, Hongkun Hao, Aiwei Liu, Xing Wang, Zhaopeng Tu, Zhuosheng Zhang, Rui Wang  
ACL 2024 (Oral) | PDF  | Github 
- **Improving Machine Translation with Human Feedback: An Exploration of Quality Estimation as a Reward Model**  
Zhiwei He, Xing Wang, Wenxiang Jiao, Zhuosheng Zhang, Rui Wang, Shuming Shi, Zhaopeng Tu  
NAACL 2024 | PDF  | Github 
- **Tencent AI Lab-Shanghai Jiao Tong University Low-Resource Translation System for the WMT22 Translation Task**  
Zhiwei He, Xing Wang, Zhaopeng Tu, Shuming Shi, Rui Wang  
WMT 2022 | PDF  | Github  | Award  : ranked **1st** (English-to-Livonian) and **2nd** (Livonian-to-English) in General Translation Task
- **Bridging the Data Gap between Training and Inference for Unsupervised Neural Machine Translation**  
Zhiwei He, Xing Wang, Rui Wang, Shuming Shi, Zhaopeng Tu  
ACL 2022 | PDF  | Github 