

# Zhengliang Shi

No.72 Binhai Road, Jimo Distinct, Qingdao, Shandong 266237, China  
(+86) 155-3729-7399 | shizhl@mail.sdu.edu.cn | [Homepage](#) | [Google scholar](#) | [Github](#)

## EDUCATION

**M.S. at Shandong University** *Sep 2023 - Jun 2026*

- Computer Science and Technology; GPA Rank 1 / 41
- Supervised by Prof. *Zhaochun Ren*
- Core Modules: Machine Learning (99), Advanced Algorithms (98)

**B.E. at Shandong University** *Sep 2019 - Jun 2023*

- Computer Science and Technology; GPA: 93.46 / 100, Rank: 2 / 182
- Supervised by Prof. *Zhaochun Ren*
- Core Modules: Advanced Mathematics (98), Discrete Mathematics (100)

## RESEARCH INTERESTS

My research focuses on Deep Research with LLMs (and other foundation models). I organize my research into **three progressive directions**:

**Part I:** Tool Learning with Foundation Models

- Teaching LLMs to use diverse external tools, thereby extending their action space to interact with the physical world.

**Part II:** Deep Research Agents

- Enabling LLMs to serve as agent that can reason (*e.g., planning*) and act (*e.g., execute*) for more complex task solving, providing accurate assistance

**Part III:** General Deep Research Agents

- Empowering agents to act as general partners in practical decision-making, including research innovation and science discovery.

*I am also highly enthusiastic about other areas, e.g., RL, Multimodality or Agents for Social Good.*

## ACADEMIC SERVICES

- **Area Chair** for ACL Rolling Review (ARR, *e.g.*, ACL, EMNLP and NAACL)
- **Program Committee** for SIGIR, TheWebConf (WWW), AAI and IJCAI
- **Reviewer** for ARR, ICLR, ECIR, IPM (journal), TKDD (journal), TORS (journal)

## RESEARCH INTERNSHIPS

**Tencent, TEG Group, HunYuan Multimodal Model Department** *Apr. 2025 – Jun. 2025*

- Research Internship
- Supervised by Dr. *Zhaopeng Tu*
- Research Topic: Deep Research Agent; Agents for Social Science

**Leiden University (Netherlands), Institute of Computer Science** *Mar. 2025 – Apr. 2025*

- Visiting Student
- Supervised by Prof. *Zhaochun Ren*, *Suzan Verberne* and *Maarten de Rijke*
- Research Topic: Deep Research Agent

**Baidu, Search Science Team** *Sep. 2023 – Sep 2025*

- Research Internship
- Supervised by Dr. *Lingyong Yan* and Dr. *Dawei Yin*

- Research Topic: LLM-based Agent, Retrieval-augmented generation

**Shandong University, Information Retrieval Laboratory**

*Sep. 2022 – Jun. 2023*

- Research Assistant
- Supervised by Prof. *Zhaochun Ren*
- Research Topic: Retrieval-augmented Generation

### **PUBLICATIONS (SELECTED \* equal contribution)**

I have published several papers in top-tier AI conferences that align with my research interests, such as tool-use agent and L Deep Research. Below are selected papers.

#### **LLM-based Agent / Tool-use Agent**

- [1] Tool Learning in the Wild: Empowering Language Models as Automatic Tool Agents  
**Zhengliang Shi**, ... (four more authors), Dawei Yin, Zhumin Chen, Suzan Verberne, Zhaochun Ren  
Accepted by **WWW 2025**
- [2] Divide-Then-Aggregate: An Efficient Tool Learning Method via Parallel Tool Invocation  
Dongsheng Zhu\*, Weixian Shi\*, **Zhengliang Shi**, ... (three more authors) Dawei Yin  
**Accepted by ACL 2025**
- [3] *Retrieval Models Aren't Tool-Savvy: Benchmarking Tool Retrieval for Large Language Models*  
**Zhengliang Shi**, Yuhan Wang, Lingyong Yan, Pengjie Ren, Shuaiqiang Wang, Dawei Yin, Zhaochun Ren  
Accepted by **ACL 2025**
- [4] Iterative Tool Learning from Introspection Feedback by Easy-to-Difficult Curriculum  
Shen Gao\*, **Zhengliang Shi**\*, ... (six more authors), Zhaochun Ren.  
Accepted by **AAAI 2024**

#### **Deep Research Agent**

- [1] Iterative Self-incentivization Empowers Large Language Models as Agentic Searchers  
**Zhengliang Shi**, Lingyong Yan, Dawei Yin, Suzan Verberne, Maarten de Rijke, Zhaochun Ren  
**Accepted by NeurIPS 2025**
- [2] Generate-then-Ground in Retrieval-Augmented Generation for Multi-hop Question Answering  
**Zhengliang Shi**, Shuo Zhang, Weiwei Sun, Shen Gao, Pengjie Ren, Zhumin Chen, Zhaochun Ren.  
Accepted by **ACL 2024**

### **COMPETITION AWARD (SELECTED)**

2022 World Artificial Intelligence Challenge Competition	National 3rd Prize
2021, 2022 American Mathematical Modeling Competition	Honorable Mention
2021 China Mathematical Modeling Competition	National 1st Prize
2021 China Innovation & Entrepreneurship Competition	National 1st Prize

### **HONORS (SELECTED)**

Outstanding Graduate	2023
Academic Scholarship	2021, 2022, 2023
Presidential Scholarship	2022
Dean's Scholarship, Department of Computer Science	2022
National Scholarship, Ministry of Education, China	2021