

Xinming Hou

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Summary

Research Interests: My primary research and study lie in the area of **natural language processing** and **machine learning**. In recent months, I have been deeply fascinated by and dedicated to the research on **large language models**, especially model **Self-improvement** and **In-context Learning**.

Research Goal: My research goal is to develop intelligent agents that can **fully autonomously** tackle **complex real-world** problems, thereby freeing up our time and creativity to pursue what truly ignites our souls and spread more love and joy.

Relevant Courses: Machine Learning, Algorithm Design and Analysis, Python Programming for AI, Optimization Theory, Discrete Mathematics, Probability and Statistics, Advanced Algebra, Mathematical Analysis, Foundations of Computer Systems, Introduction of AI.

Education

Gaoling School of Artificial Intelligence, Renmin University of China (RUC)

Beijing, China

BACHELOR'S OF ENGINEERING (B.ENG.) IN ARTIFICIAL INTELLIGENCE

Sept. 2021-Jun. 2025(Expected)

- Major GPA (CS courses): 3.89/4, Ranking:2/46

Skills

Programming C/C++, Python, \LaTeX , Linux, SQL, MATLAB, HTML5, CSS, JS, etc.

Frameworks PyTorch, Tensorflow, NumPy, DeepSpeed, Git, Anaconda, etc.

Research Experience

Renmin University of China

Beijing, China

RESEARCH ASSISTANT AT **RUC AI BOX**, ADVISED BY **PROF. WAYNE XIN ZHAO**

Jul. 2022 - Present

- Research Topics:** natural language processing, large language models
- Explored a universal pipeline for building user-friendly prompts, incorporating various ICL methods, and building a self-improvement framework that can demonstrate satisfactory performance in various complex cognitive and reasoning tasks.

Project Portfolio (Selected)

Classical Chinese Poetry Creation Model

Beijing, China

FOUNDER & DEVELOPER, ADVISED BY **PROF. RUI YAN** AND **PROF. DANJUN CAI** / [\[PRE. SLIDES\]](#)

Feb. 2023 - Apr. 2023

- Proposed a Chinese Tang Poetry creation pre-trained language model, which endows the model with vitality and a complete life cycle like Tang dynasty poets, and enables emotional interaction with users.

Implementation of a Basic Search Engine

Beijing, China

FOUNDER & DEVELOPER, ADVISED BY **PROF. JIAXIN MAO** / [\[CODE\]](#)

Aug. 2022

- Coursework for Artificial Intelligence Integrated Design, voted as the best system (1/14)
- Built A website that supports school community network search using HTML5, CSS, and JS languages.
- Applied the advanced methods of web crawler and classical algorithms of information retrieval (such as TF-IDF, PAGE-RANK, etc.)

Honors and Awards (Selected)

- 2022 **National First Prize**, National College Student Mathematical Modeling Competition (top 0.60%)
- 2022 **Best System**, GSAI Artificial Intelligence Integrated Design
- 2022 **1st place**, RUC Group Competitive OJ Contest for Programming Course (1/22)
- 2023 , Mathematical Contest in Modeling