Shitou Zhang (张石头) *July, 2024*

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Academic Qualification

2023   *MSc, Information Engineering*   *the Chinese University of Hong Kong*

Advisor: *Prof. J.K. Zao*

2022   **B.M, Information Management (Archival Science Option)**   *Wuhan University*

Advisor: *Prof. Ping Wang*

Thesis: *Research on Archival Open Access Identification Based on End-to-end Text Classification Methods*

Honor: Outstanding Undergraduate Thesis

Professional Affiliation

2020   **Member**   **Key Laboratory of Archival Intelligent Development and Service, NAAC, Wuhan**

Professional Practice

2024/02 – 2024/06	**Teaching Assistant**	**Information Engineering Dept. the Chinese University of Hong Kong**
2023/09 – 2024/02	**Research Intern**	**DeepLang Technology Co. Ltd., Beijing**
2023/07 – 2023/08	**Technical Consultant**	**FiduciaEdge Technologies Co. Ltd., Hong Kong**
2023/06 – 2023/07	**Research Assistant**	**Key Laboratory of Archival Intelligent Development and Service, NAAC, Wuhan**
2023/03 – 2023/06	**Research Assistant**	**Computer Science Dept. Wuhan University**

Project Experience

2023/09 – 2024/02   **LingoWhale-MoE**

Role: Key Contributor

Overview: Engaged in the implementation and pretraining of the LingoWhale-MoE series of LLMs. Implemented ALL2ALL token routing to improve training efficiency. Experimented with a comprehensive search in model architectural design, including initialization from upcycling, expert layer interval, token dropping, and etc.

2023/03 – 2023/09   **BatGPT**

Role: Key Contributor

Overview: Engaged int the implementation and pretraining of BatGPT—a series of foundation LLMs. Implemented bidirectional input masking to realize bidirectional autoregressive pretraining. Upon release, our model achieved an 8th ranking across all Chinese-oriented LLMs on the C-eval leaderboard.

2023/06 - 2023/09   **ArcGPT**

Role: Project Leader

Description: Led the development of ArcGPT—a domain-specific LLM designed for archival applications. In conjunction with ArcGPT, we developed and open-sourced ArcMMLU, a comprehensive LLM evaluation benchmark tailored for the Library & Information Science (LIS) domain.

2023/07 - 2023/08   **ClusterFL on fECP**

Role: Key Contributor

Overview: Engaged in re-implementation and optimization of ClusterFL utilizing the Flower framework. Our model was successfully developed and deployed on the Vecow Vhub (arm-based edge AI computing platform) with fECP (fiducial Edge Computing Platform) as the backend environment.

2020/09 - 2022/09   **AI-assisted Archival Management**

Role: Key Contributor

Overview: Participated in the development of AI-driven tools designed to improve archival management. Our AI-assisted solution for archival open-access identification & retention period prediction was successfully adopted by Provincial Archives Administration of Hubei.

Publications

1. Shitou Zhang[*], Ping Wang, Zuchao Li, Jingrui Hou, and Qibiao Hu. **"Confidence-based Syntax Encoding Network for Better Ancient Chinese Understanding."** *Information Processing & Management, 61(3), 103616 (2024).*

2. Shitou Zhang[*], Zuchao Li, Xingshen Liu, Liming Yang, and Ping Wang. **"ArcMMLU: A Library and Information Science Benchmark for Large Language Models."** *arXiv preprint arXiv:2311.18658* (2023).

3. Shitou Zhang[*], Siyuan Peng, Ping Wang, and Jingrui Hou. **"Archives Meet GPT: A Pilot Study on Enhancing Archival Workflows with Large Language Models."** *iConference 2024 Proceedings (2024).*

4. Shitou Zhang[*], Jingrui Hou, Siyuan Peng, Zuchao Li, Qibiao Hu, and Ping Wang. **"ArcGPT: A Large Language Model Tailored for Real-world Archival Applications."** *arXiv preprint arXiv:2307.14852* (2023).

5. Zuchao Li, Shitou Zhang[*], Hai Zhao, Yifei Yang, and Dongjie Yang. **"BatGPT: A Bidirectional Autoregessive Talker from Generative Pre-trained Transformer."** *arXiv preprint arXiv:2307.00360* (2023).

6. Shitou Zhang[*], Ping Wang, Zuchao Li, and Jingrui Hou. 2023. **"Enhancing Ancient Chinese Understanding with Derived Noisy Syntax Trees."** *In Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (Volume 4: Student Research Workshop), pages 83–92, Toronto, Canada. Association for Computational Linguistics.*

Manuscripts

1. Jiajia Li, Letian Peng, Shitou Zhang*, Ping Wang, Zuchao Li, and Hai Zhao. **"Semantics-Preserved Distortion for Personal Privacy Protection in Information Management."** *Expert Systems with Applications, under review.*

2. Chuancheng Lv, Lei Li, Shitou Zhang*, Gang Chen, Fanchao Qi, Ningyu Zhang, Hai-Tao Zheng . **"HyperLoRA: Efficient Cross-task Generalization via Low-Rank Adapters Generation."** *EMNLP 2024, under review.*