Mingzhe Du

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RESEARCH INTERESTS

Code Generation / Preference Alignment / Bias Evaluation and Mitigation

EDUCATION

Nanyang Technological University   Singapore
PhD Candidate in Computer Science, College of Computing and Data Science   *Aug. 2022 – Present*
- Advisor: *Prof. Anh Tuan Luu*

The University of Melbourne   Melbourne, Australia
Master of Information Technology, Faculty of Engineering   *Oct. 2017 – Dec. 2019*
- Specialization: Distributed Computing (Honorable Dissertation)

Central South University   Changsha, China
Bachelor of Information Security, School of Computer Science and Engineering   *Sep. 2013 – Jun. 2017*
- Excellent Scholarships *(GPA: 3.7/4.0)*

PROFESSIONAL EXPERIENCE

National University of Singapore, *Institute of Data Science*   *Aug. 2021 – Present*
- Research Associate (Advisor: *Prof. See-Kiong Ng*).
- Affiliated with Cisco-NUS Accelerated Digital Economy Corporate Laboratory.

ByteDance, *Tiktok*   *Dec. 2019 – Aug. 2021*
- Software Architect
- Implemented a high-performance NLP operator library in C++.
- Designed a general search engine, now powering the search services of TikTok and TouTiao.

Microsoft, *Asia-Pacific Research and Development Group*   *Nov. 2018 – Mar. 2019*
- Research Intern (Mentor: *Wei Liu*).
- Contributed features to XiaoIce chatbot.
- Developed a text-to-image transformer that converts textual sentences into visually representative images.

Alibaba, *Ant Finance Core Clearing Team*   *Jul. 2016 – Oct. 2016*
- Software Engineer Intern.
- Contributed to a core system that supports Alipay payment account clearing flow, merging millions of orders in a minute-level interval for exchanging data with bank partners.

Tencent, *Social Network Group*   *Mar. 2016 – Jun. 2016*
- Software Engineer Intern.
- Implemented a URL flow processing platform to analyze and detect suspicious URL content in public message traffic, enabling the filtering of malicious information.

ACADEMIC SERVICES

- **Conference Reviewer:** *AAAI'26, CIKM'25, ECAI'25, NeurIPS'25, ICML'25, ICLR'25, NAACL'24, EMNLP'24, AISTATS'24, ICLR'24, NeurIPS'24, ECAI'24, CLEF'23.*
- **Journal Reviewer:** *ACM Computing Survey, Frontiers in Artificial Intelligence.*
- **Volunteer:** *ACL'25, WWW'24, EMNLP'24, AAAI'23.*
- **STEM Mentor:** *The University of Melbourne (2019-Present).*

1. **Mingzhe Du**, Luu Anh Tuan, Yue Liu, Yuhao Qing, Dong Huang, Xinyi He, Qian Liu, Zejun Ma, and See-kiong Ng. Afterburner: Reinforcement Learning Facilitates Self-Improving Code Efficiency Optimization. In *ICML'25 Workshop on Programmatic Representations for Agent Learning (PRAL@ICML'25)*.

2. **Mingzhe Du**, Luu Anh Tuan , Xiaobao Wu, Yichong Huang, Yue Liu, Dong Huang, Huijun Liu, Bin Ji, Jie M. Zhang, and See-Kiong Ng. Collective Bias Mitigation via Model Routing and Collaboration. In *ICML'25 Workshop on Collaborative and Federated Agentic Workflows (CFAgentic@ICML'25)*.

3. Xinyi He, Qian Liu, **Mingzhe Du**, Lin Yan, Zhijie Fan, Yiming Huang, Zejian Yuan, and Zejun Ma. SWE-Perf: Can Language Models Optimize Code Performance on Real-World Repositories? *(Preprint)*.

4. Zhaomin Wu, **Mingzhe Du**, See-Kiong Ng, and Bingsheng He. Beyond Prompt-Induced Lies: Investigating LLM Deception on Benign Prompts. *(Preprint)*.

5. Yue Liu, Shengfang Zhai, **Mingzhe Du**, Yulin Chen, Tri Cao, Hongcheng Gao, Cheng Wang, Xinfeng Li, Kun Wang, Junfeng Fang, Jiaheng Zhang, and Bryan Hooi. Guardreasoner-VL: Safeguarding VLMs via Reinforced Reasoning. *(Preprint)*.

6. Dong Huang, Jie M. Zhang, Mark Harman, Qianru Zhang, **Mingzhe Du**[†], and See-Kiong Ng. Benchmarking LLMs for Unit Test Generation from Real-World Functions. *(Preprint)*.

7. Yuhao Qing[*], Boyu Zhu[*], **Mingzhe Du**[*], Zhijiang Guo, Terry Yue Zhuo, Qianru Zhang, Jie M. Zhang, Heming Cui, Siu-Ming Yiu, Dong Huang, See-Kiong Ng, Luu Anh Tuan. EffiBench-X: A Multi-Language Benchmark for Measuring Efficiency of LLM-Generated Code. *(Preprint)*.

8. Dong Huang, Jie M. Zhang, Mark Harman, **Mingzhe Du**, and Heming Cui. Measuring the Influence of Incorrect Code on Test Generation. In *the International Conference on Software Engineering (ICSE'25)*.

9. **Mingzhe Du**, Anh Tuan Luu, Bin Ji, Xiaobao Wu, Dong Huang, Terry Yue Zhuo, Qian Liu, and See-Kiong Ng. CodeArena: A collective evaluation platform for LLM code generation. In *the Association for Computational Linguistics (ACL'25 Demo)*.

10. Xiaobao Wu, Liangming Pan, Yuxi Xie, Ruiwen Zhou, Shuai Zhao, Yubo Ma, **Mingzhe Du**, Rui Mao, Anh Tuan Luu, and William Yang Wang. AntiLeakBench: Preventing Data Contamination by Automatically Constructing Benchmarks with Updated Real-World Knowledge. In *the Association for Computational Linguistics (ACL'25 Oral, SAC Highlight Award)*.

11. Moming Duan[*], **Mingzhe Du**[*], Rui Zhao, Mengying Wang, Yinghui Wu, Nigel Shadbolt, and Bingsheng He. Position: Current Model Licensing Practices are Dragging Us into a Quagmire of Legal Noncompliance. In *the International Conference on Machine Learning (ICML'25 Oral)*.

12. Ji, Bin, Huijun Liu, **Mingzhe Du**, Shasha Li, Xiaodong Liu, Jun Ma, Jie Yu, and See-Kiong Ng. Towards Verifiable Text Generation with Generative Agent. In *the AAAI Conference on Artificial Intelligence (AAAI'25 Oral)*.

13. Duc Anh Vu, Cong-Duy Nguyen, Xiaobao Wu, Nhat Hoang, **Mingzhe Du**, Thong Nguyen, and Anh Tuan Luu. Curriculum Demonstration Selection for In-Context Learning. In *the 40th ACM/SIGAPP Symposium on Applied Computing (SAC'25)*.

14. **Mingzhe Du**, Anh Tuan Luu, Bin Ji, Qian Liu, and See-Kiong Ng. Mercury: A Code Efficiency Benchmark for Code Large Language Models. In *the Advances in Neural Information Processing Systems (NeurIPS'24)*.

15. Beng Heng Ang, Sujatha Das Gollapalli, **Mingzhe Du**, and See-Kiong Ng. Unraveling Online Mental Health Through the Lens of Early Maladaptive Schemas: AI-Enabled Content Analysis of Online Mental Health Communities. In *the Journal of Medical Internet Research (JMIR'25)*.

16. **Mingzhe Du**, Anh Tuan Luu, Bin Ji, and See-Kiong Ng. From Static to Dynamic: Knowledge Metabolism for Large Language Models. In *the AAAI Conference on Artificial Intelligence (AAAI'24)*.

17. Bin Ji, Huijun Liu, **Mingzhe Du**, and See-Kiong Ng. Chain-of-Thought Improves Text Generation with Citations in Large Language Models. In *the AAAI Conference on Artificial Intelligence (AAAI'24)*.

18. Sujatha Das Gollapalli, Beng Heng Ang, **Mingzhe Du**, and See-Kiong Ng. Counseling Responses for Mental Health Forum Questions with Early Maladaptive Schema Prediction. In *the European Conference on Artificial Intelligence (ECAI'24)*.

19. **Mingzhe Du**, Mouad Hakam, See-Kiong Ng, and Stéphane Bressan. Constituency-Informed and Constituency-Constrained Extractive Question Answering with Heterogeneous Graph Transformer. In *the Transactions on Large-Scale Data-and Knowledge-Centered Systems LIII (TLDK'23)*.

20. Sujatha Das Gollapalli, **Mingzhe Du**, and See-Kiong Ng. Identifying Checkworthy Cure Claims on Twitter. In *the ACM Web Conference (WWW'23)*.

21. Sujatha Das Gollapalli, **Mingzhe Du**, and See-Kiong Ng. Generating Reflective Questions for Engaging Gallery Visitors in ArtMuse. In *the AAAI Conference on Artificial Intelligence (AAAI'23)*.

22. **Mingzhe Du**, Sujatha Das Gollapalli, and See-Kiong Ng. NUS-IDS at CheckThat! 2022: Identifying Check-worthiness of Tweets using CheckthaT5. In *the Conference and Labs of the Evaluation Forum (CLEF'22)*.

MISCELLANEOUS

- **LinkedIn:** *Mingzhe's LinkedIn*   **WeChat:** *spirit_song*
- **GitHub:** *https://www.github.com/elfsong*
- **Business Email:** *mingzhe@nus.edu.sg | mingzhe001@ntu.edu.sg*