

# Mingzhe Du

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Innovation 4.0, 3 Research Link, Singapore, 117902

## RESEARCH INTERESTS

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Code Generation / Preference Alignment / Bias Evaluation and Mitigation

## EDUCATION

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### Nanyang Technological University

*PhD Candidate in Computer Science, College of Computing and Data Science*

Singapore

*Aug. 2022 – Present*

- Advisor: *Prof. Anh Tuan Luu*

### The University of Melbourne

*Master of Information Technology, Faculty of Engineering*

Melbourne, Australia

*Oct. 2017 – Dec. 2019*

- Advisor: *Prof. Richard O. Sinnott*
- Specialization: Distributed Computing (Honorable Dissertation)

### Central South University

*Bachelor of Information Security, School of Computer Science and Engineering*

Changsha, China

*Sep. 2013 – Jun. 2017*

- Excellent Scholarships (GPA: 3.7/4.0)

## PROFESSIONAL EXPERIENCE

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### 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 Search*

*Dec. 2019 – Aug. 2021*

- Software Architect
- Architected a scalable, general-purpose search engine (*Search Eternal*) that now powers core search services for major ByteDance platforms, including *Douyin*, *TikTok* and *Toutiao*.

### Microsoft, *Asia-Pacific Research and Development Group*

*Nov. 2018 – Mar. 2019*

- Research Intern (Mentor: *Wei Liu*)
- Designed and implemented a Transformer-based model for text-to-image synthesis, generating visually coherent images from textual descriptions.

### Alibaba, *Ant Finance Core Clearing Team*

*Jul. 2016 – Oct. 2016*

- Software Engineer Intern
- Developed components for a core system in Alipay's payment clearing flow, enabling the aggregation of millions of orders at minute-level latency for data exchange with banking partners.

### Tencent, *Social Network Group*

*Mar. 2016 – Jun. 2016*

- Software Engineer Intern
- Built and deployed a URL analysis platform to process and detect suspicious content in high-volume public message traffic, significantly improving the filtering of malicious information to enhance content security.

## ACADEMIC SERVICES

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- **Conference Reviewer:** *NeurIPS (24,25,26), ICLR (24,25,26), ICML (25,26), AISTATS (24,26), AAAI'26, CIKM'25, ECAI'25, NAACL'24, EMNLP'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).*

## SELECTED PUBLICATIONS

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- [**NeurIPS’25**] [Afterburner: Reinforcement Learning Facilitates Self-Improving Code Efficiency Optimization.](#)  
**Mingzhe Du**, Luu Anh Tuan, Yue Liu, Yuhao Qing, Dong Huang, Xinyi He, Qian Liu, Zejun Ma, See-kiong Ng
- [**ACL’25**] [CodeArena: A collective evaluation platform for LLM code generation.](#)  
**Mingzhe Du**, Luu Anh Tuan, Bin Ji, Xiaobao Wu, Dong Huang, Terry Yue Zhuo, Qian Liu, See-Kiong Ng
- [**NeurIPS’24**] [Mercury: A Code Efficiency Benchmark for Code Large Language Models.](#)  
**Mingzhe Du**, Luu Anh Tuan, Bin Ji, Qian Liu, See-Kiong Ng

## PUBLICATIONS

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- [**Preprint**] [SWE-Perf: Can Language Models Optimize Code Performance on Real-World Repositories?](#)  
Xinyi He, Qian Liu, **Mingzhe Du**, Lin Yan, Zhijie Fan, Yiming Huang, Zejian Yuan, and Zejun Ma.
- [**Preprint**] [Beyond Prompt-Induced Lies: Investigating LLM Deception on Benign Prompts.](#)  
Zhaomin Wu, **Mingzhe Du**, See-Kiong Ng, and Bingsheng He.
- [**Preprint**] [Benchmarking LLMs for Unit Test Generation from Real-World Functions.](#)  
Dong Huang, Jie M. Zhang, Mark Harman, Qianru Zhang, **Mingzhe Du**<sup>†</sup>, and See-Kiong Ng.
- [**EMNLP’25**] [On Assigning Product and Software Codes to Service Requests with Large Language Models.](#)  
Sujatha Das Gollapalli, Mouad Hakam, **Mingzhe Du**, See-Kiong Ng, and Mohammed Hamzeh.
- [**NeurIPS’25**] [Afterburner: Reinforcement Learning Facilitates Self-Improving Code Efficiency Optimization.](#)  
**Mingzhe Du**, Luu Anh Tuan, Yue Liu, Yuhao Qing, Dong Huang, Xinyi He, Qian Liu, Zejun Ma, and See-kiong Ng.
- [**NeurIPS’25**] [EffiBench-X: A Multi-Language Benchmark for Measuring Efficiency of LLM-Generated Code.](#)  
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, and Luu Anh Tuan.
- [**NeurIPS’25**] [Guardreasoner-VL: Safeguarding VLMs via Reinforced Reasoning.](#)  
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.
- [**PRAL@ICML’25**] [Afterburner: Reinforcement Learning Facilitates Self-Improving Code Efficiency Optimization.](#)  
**Mingzhe Du**, Luu Anh Tuan, Yue Liu, Yuhao Qing, Dong Huang, Xinyi He, Qian Liu, Zejun Ma, and See-kiong Ng.
- [**CFAgentic@ICML’25**] [Collective Bias Mitigation via Model Routing and Collaboration.](#)  
**Mingzhe Du**, Luu Anh Tuan, Xiaobao Wu, Yichong Huang, Yue Liu, Dong Huang, Huijun Liu, Bin Ji, Jie M. Zhang, and See-Kiong Ng.
- [**ICSE’25**] [Measuring the Influence of Incorrect Code on Test Generation.](#)  
Dong Huang, Jie M. Zhang, Mark Harman, **Mingzhe Du**, and Heming Cui.
- [**ACL’25**] [CodeArena: A collective evaluation platform for LLM code generation.](#)  
**Mingzhe Du**, Luu Anh Tuan, Bin Ji, Xiaobao Wu, Dong Huang, Terry Yue Zhuo, Qian Liu, and See-Kiong Ng.
- [**ACL’25**] [AntiLeakBench: Preventing Data Contamination by Automatically Constructing Benchmarks with Updated Real-World Knowledge.](#) (Oral and SAC Highlight Award)  
Xiaobao Wu, Liangming Pan, Yuxi Xie, Ruiwen Zhou, Shuai Zhao, Yubo Ma, **Mingzhe Du**, Rui Mao, Anh Tuan Luu, and William Yang Wang.
- [**ICML’25**] [Position: Current Model Licensing Practices are Dragging Us into a Quagmire of Legal Noncompliance.](#) (Oral)  
Moming Duan\*, **Mingzhe Du**\*, Rui Zhao, Mengying Wang, Yinghui Wu, Nigel Shadbolt, and Bingsheng He.

- [AAAI'25] [Towards Verifiable Text Generation with Generative Agent](#). (Oral)  
Ji, Bin, Huijun Liu, **Mingzhe Du**, Shasha Li, Xiaodong Liu, Jun Ma, Jie Yu, and See-Kiong Ng.
- [SAC'25] [Curriculum Demonstration Selection for In-Context Learning](#).  
Duc Anh Vu, Cong-Duy Nguyen, Xiaobao Wu, Nhat Hoang, **Mingzhe Du**, Thong Nguyen, and Anh Tuan Luu.
- [NeurIPS'24] [Mercury: A Code Efficiency Benchmark for Code Large Language Models](#).  
**Mingzhe Du**, Luu Anh Tuan, Bin Ji, Qian Liu, and See-Kiong Ng.
- [JMIR'25] [Unraveling Online Mental Health Through the Lens of Early Maladaptive Schemas: AI-Enabled Content Analysis of Online Mental Health Communities](#).  
Beng Heng Ang, Sujatha Das Gollapalli, **Mingzhe Du**, and See-Kiong Ng.
- [AAAI'24] [From Static to Dynamic: Knowledge Metabolism for Large Language Models](#).  
**Mingzhe Du**, Anh Tuan Luu, Bin Ji, and See-Kiong Ng.
- [AAAI'24] [Chain-of-Thought Improves Text Generation with Citations in Large Language Models](#).  
Bin Ji, Huijun Liu, **Mingzhe Du**, and See-Kiong Ng.
- [ECAI'24] [Counseling Responses for Mental Health Forum Questions with Early Maladaptive Schema Prediction](#).  
Sujatha Das Gollapalli, Beng Heng Ang, **Mingzhe Du**, and See-Kiong Ng.
- [TLDK'23] [Constituency-Informed and Constituency-Constrained Extractive Question Answering with Heterogeneous Graph Transformer](#).  
**Mingzhe Du**, Mouad Hakam, See-Kiong Ng, and Stéphane Bressan.
- [WWW'23] [Identifying Checkworthy Cure Claims on Twitter](#).  
Sujatha Das Gollapalli, **Mingzhe Du**, and See-Kiong Ng.
- [AAAI'23] [Generating Reflective Questions for Engaging Gallery Visitors in ArtMuse](#).  
Sujatha Das Gollapalli, **Mingzhe Du**, and See-Kiong Ng.
- [CLEF'22] [NUS-IDS at CheckThat! 2022: Identifying Check-worthiness of Tweets using CheckthaT5](#).  
**Mingzhe Du**, Sujatha Das Gollapalli, and See-Kiong Ng.

† *Corresponding Author*, \* *Equal Contribution*.

## AWARDS

- **First Runner-Up Award** at the **Singapore Healthcare AI Datathon 2022**: *Identifying ICU patient with central lines at risk of CLABSI*.
- **First Prize** at **Catalyst 2019**: *A Path Recommendation System based on data aggregation and analysis*.
- **First Prize** at **Codebrew 2019**: *After Dark* (Finding safe and fast routes for pedestrians at night).
- **First Prize** at the **Mathematical Contest in Modeling (MCM, 2014)**: *Study on the wreckage position of Malaysia Airlines flight MH370*.
- **Second Prize** at the **8th National Information Security Competition (2015)**: *An efficient express system based on hierarchical encryption*.
- **Second Prize** at the **Second National Internet of Things Application Innovation Competition (2015)**: *Intelligent Remote Control System Based on Raspberry Pi*.
- **Technology Pioneer Award** at the **Cyberspace Security Talent Development and Entrepreneurship Forum (2015)**.
- **First Prize** at the **National Internet of Things Competition (2015)**.

## MISCELLANEOUS

- **LinkedIn**: <https://www.linkedin.com/in/dumingzhe>   **WeChat**: *spirit\_song*
- **GitHub**: <https://www.github.com/elfsong>   **Language**: *Mandarin (native) | English (professional)*
- **Business Email**: [mingzhe@nus.edu.sg](mailto:mingzhe@nus.edu.sg) | [mingzhe001@ntu.edu.sg](mailto:mingzhe001@ntu.edu.sg)