

Xiangming Gu

Homepage: <https://guxm2021.github.io>

Email : xiangming@u.nus.edu

Mobile : +65-86691662

EDUCATION

- National University of Singapore** Singapore
 - *PhD candidate, Integrative Sciences and Engineering Programme* Aug. 2021 – Present
 - Majored in Computer Science, Advisor: Prof. Ye Wang, GPA: 4.80/5.0*
- Tsinghua University** Beijing, China
 - *B.E. in Electronic Engineering, B.S. in Finance, GPA: 3.80/4.0* Aug. 2017 – June 2021
- National University of Singapore** Singapore
 - *Exchange in Electrical and Computer Engineering, GPA: 4.88/5.0* Jan. 2020 – May 2020

EMPLOYMENT

- Sea AI Lab** Singapore
 - *Research Intern* March 2023 – Present
 - **Mentor:** Tianyu Pang and Chao Du.
 - **Topic:** Generative Model and Language Large Model.

RESEARCH INTEREST

- **Machine Learning:** Fundamental research for generative models and (multimodal) large language models.
- **Applications:** Application of machine learning, e.g. multimodal learning, multi-distribution learning (domain adaptation, fairness), to singing/speech techniques.

PREPRINTS

* denotes equal contribution, †denotes correspondence.

1. **Xiangming Gu***, Xiaosen Zheng*, Tianyu Pang*†, Chao Du, Qian Liu, Ye Wang†, Jing Jiang†, Min Lin. Agent Smith: A Single Image Can Jailbreak One Million Multimodal LLM Agents Exponentially Fast. *arXiv preprint arXiv:2402.08567*, 2024.
2. **Xiangming Gu**, Chao Du†, Tianyu Pang†, Chongxuan Li, Min Lin, Ye Wang†. On Memorization in Diffusion Models. *arXiv preprint arXiv:2310.02664*, 2023

PUBLICATION LIST (GOOGLE SCHOLAR)

* denotes equal contribution, †denotes correspondence.

1. **Xiangming Gu**, Longshen Ou, Wei Zeng, Jianan Zhang, Nicholas Wong, Ye Wang†. Automatic Lyric Transcription and Automatic Music Transcription from Multimodal Singing. *ACM Transactions on Multimedia Computing Communications and Applications (TOMM)*, 2024. (**Impact factor: 5.1**)
2. Yixin Wang, Wei Wei, **Xiangming Gu**, Xiaohong Guan, Ye Wang†. Disentangled Adversarial Domain Adaptation for Phonation Mode Detection in Singing and Speech. *IEEE Transactions on Audio, Speech and Language Processing (TASLP)*, 2023. (**Impact factor: 4.364**)
3. **Xiangming Gu**, Wei Zeng, Ye Wang†. Elucidate Gender Fairness in Singing Voice Transcription. *ACM International Conference on Multimedia (MM)*, 2023.
4. Wei Wei*, Hengguan Huang*, **Xiangming Gu**, Hao Wang, Ye Wang†. Unsupervised Mismatch Localization in Cross-Modal Sequential Data with Application to Mispronunciations Localization. *Transactions on Machine Learning Research (TMLR)*, 2022.
5. **Xiangming Gu***, Longshen Ou*, Danielle Ong, Ye Wang†. MM-ALT: A Multimodal Automatic Lyric Transcription System. *ACM International Conference on Multimedia (MM)*, 2022. (**Oral, Top Paper Award**)

6. Hengguan Huang[†], **Xiangming Gu**, Hao Wang, Chang Xiao, Hongfu Liu, Ye Wang[†]. Extrapolative Continuous-time Bayesian Neural Network for Predictive Streaming Domain Adaptation. *Conference on Neural Information Processing Systems (NeurIPS)*, 2022.
7. Longshen Ou*, **Xiangming Gu***, Ye Wang[†]. Towards Transfer Learning of wav2vec 2.0 for Automatic Lyric Transcription. *International Society for Music Information Retrieval Conference (ISMIR)*, 2022.
8. Youze Xue, Jiansheng Chen[†], **Xiangming Gu**, Huimin Ma, Hongbing Ma. Boosting Monocular 3D Human Pose Estimation with Part Aware Attention. *IEEE Transactions on Image Processing (TIP)*, 2022. (**Impact factor: 11.041**)
9. Boyu Zhang, Penghui Yang, **Xiangming Gu**, Hongen Liao[†]. Laser Endoscopic Manipulator Using Spring-reinforced Multi-DoF Soft Actuator. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, also in *IEEE Robotics and Automation Letter (RA-L)*, 2021. (**Impact factor: 4.321**)

HONORS AND AWARDS

- | | |
|--|------|
| • Research Incentive Award (School of Computing, National University of Singapore) | 2023 |
| • Research Achievement Award (School of Computing, National University of Singapore) | 2022 |
| • MM'22 Top Paper Award (ACM) | 2022 |
| • MM'22 Student Travel Grant (ACM) | 2022 |
| • President's Graduate Fellowship (National University of Singapore) | 2021 |
| • Visiting Undergraduate Student Scholarship (Tsinghua University) | 2020 |
| • Zheng Geru Scholarship (Tsinghua University) | 2018 |

PROFESSIONAL SERVICES

- **Conference Reviewer:** MM 2024, ECCV 2024, IJCAI 2024, ICCV 2023, AISTATS 2021
- **Journal Reviewer:** TASLP, RA-L

TEACHING

- | | |
|---|--|
| • Teaching Assistant
<i>CS5242, Neural Networks and Deep Learning</i> | National University of Singapore
<i>Spring 2023</i> |
| • Teaching Assistant
<i>CS3244: Machine Learning</i> | National University of Singapore
<i>Fall 2022</i> |
| • Teaching Assistant
<i>CS4243: Computer Vision and Pattern Recognition</i> | National University of Singapore
<i>Spring 2022</i> |

TECHNICAL SKILLS

- **Coding:** Python, Matlab, Shell, C/C++, HTML, Verilog, Assembly language, L^AT_EX, ...
- **Libraries:** PyTorch, Tensorflow, Huggingface, SpeechBrain, ...