# Beier Zhu

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**Abbreviation**

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| NTU | Nanyang Technological University | MM | ACM International Conference on Multimedia |
| THU | Tsinghua University | ICCV | IEEE International Conference on Computer Vision |
| CVPR | Conference on Computer Vision and Pattern Recognition | AAAI | AAAI Conference on Artificial Intelligence |
| NeurIPS | Conference on Neural Information Processing Systems | TIP | IEEE Transactions on Image Processing |
| TSG | IEEE Transactions on Smart Grid | EE | Electric Engineering |

**Research Interests**

Theory: I develop robust learning algorithms, with a focus on long-tailed learning, group robustness, OOD generalization, and fairness.
Application: My work explores the understanding and application of large multimodal models, including MLLMs, VLMs, and Stable Diffusion, for solving downstream tasks.

**Working Experience**

Research Scientist, NTU, Singapore — Mar 2025 – Present
*work with Prof. Hanwang Zhang*

Researcher, SenseTime, Beijing — Jul 2019 – Nov 2020

**Education**

P.h.D in Computer Science, NTU, Singapore — Jan 2021 – Jan 2025
*supervisor: Prof. Hanwang Zhang* — *GPA: 4.5/5.0*

M.S. in EE, THU, Beijing. GPA: 3.63/4.0 — Sep 2016 – Jul 2019

B.E. in EE, THU, Beijing. GPA: 89/100 — Sep 2012 – Jul 2016

**Selected Publications**

Listed in chronological order. *: equal contribution. †: corresponding author.

### First-Authored Publications

1. Distilling parallel gradients for fast ODE solvers of diffusion models.
   ***B. Zhu***, *R. Wang, T. Zhao, H. Zhang, C. Zhang*
   **ICCV** 2025.
2. Project-probe-aggregate: efficient fine-tuning for group robustness.
   ***B. Zhu***, *J. Cui, H. Zhang, C. Zhang*
   Highlight, **CVPR** 2025.
3. Robust fine-tuning of zero-shot models via variance reduction.
   ***B. Zhu***, *J. Cui, H. Zhang*
   **NeurIPS** 2024.
4. Enhancing zero-shot vision models by label-free prompt distribution learning and bias correcting.
   *X. Zhu*,* ***B. Zhu****, *Y. Tan, S. Wang, Y. Hao, H. Zhang*
   Spotlight, **NeurIPS** 2024.
5. Selective vision-Language subspace projection for few-shot CLIP.
   *X. Zhu*,* ***B. Zhu****, *Y. Tan, S. Wang, Y. Hao, H. Zhang*
   Oral, **MM** 2024.
6. Generalized logit adjustment: calibrating fine-tuned models by removing label bias in foundation models.
   ***B. Zhu***, *K. Tang, Q. Sun and H. Zhang*
   **NeurIPS** 2023.
7. Prompt-aligned gradient for prompt tuning.
   ***B. Zhu***, *Y. Niu, Y. Han, Y. Wu and H. Zhang*
   **ICCV** 2023.
8. Debiased fine-tuning for vision-language models by prompt regularization.
   ***B. Zhu***, *Y. Niu, S. Lee, M. Hur, H. Zhang*
   Oral, **AAAI** 2023.
9. Cross-domain empirical risk minimization for unbiased long-tailed classification.
   ***B. Zhu***, *Y. Niu, X. Hua and H. Zhang*
   Oral, **AAAI** 2022.
10. Polygonal region detection.
    ***Beier Zhu***, *Rui Zhang.*
    US patent 2022.
11. Structure-coherent deep feature learning for robust face alignment.
    *C. Lin*,* ***B. Zhu****, *Q. Wang, R. Liao, C. Qian, J. Lu and J. Zhou*
    **TIP** 2021.

**Corresponding-Authored Publications**

12. Unsupervised visual chain-of-thought reasoning via preference optimization
*K. Zhao, †**B. Zhu**, Q. Sun, H. Zhang*
**ICCV** 2025.
13. Fault location for radial distribution network via topology and reclosure-generating traveling waves.
*S. Shi, †**B. Zhu**, A. Lei and X. Dong*
**TSG** 2019.
14. Fault classification for transmission lines based on group sparse representation.
*S. Shi, †**B. Zhu**, S. Mirsaeidi and X. Dong*
**TSG** 2018.

**Others**

15. Benchmarking and Bridging Emotion Conflicts for Multimodal Emotion Reasoning.
*Z. Han, **B. Zhu**, Y. Xu, P. Song, X. Yang*
Oral, **MM** 2025.
16. Dynamic multimodal prototype learning in vision-language models.
*X. Zhu, S. Wang, **B. Zhu**, M. Li, Y. Li, J. Fang, Z. Wang, D. Wang, H. Zhang*
**ICCV** 2025.
17. Devils in middle layers of large vision-language models: interpreting, detecting and mitigating object hallucinations via attention lens.
*Z. Jiang, J. Chen, **B. Zhu**, T. Luo, Y. Shen, X. Yang*
**CVPR** 2025.
18. Stylestudio: text-driven style transfer with selective control of style elements
*M. Lei, X. Song, **B. Zhu**, H. Wang, C. Zhang*
**CVPR** 2025
19. Classes are not equal: an empirical study on image recognition fairness.
*J. Cui, **B. Zhu**, X. Wen, X. Qi, B. Yu, H. Zhang*
**CVPR** 2024
20. Leveraging modality-specific representations for audio-visual speech recognition via reinforcement learning.
*C. Chen, Y. Hu, Q. Zhang, H. Zou, **B. Zhu**, E. Chng*
Oral, **AAAI** 2023

**Service**

*Journal Reviewer:* TPAMI, TIP, TCSVT, IJCV

*Conference Reviewer:* CVPR, ICCV, AAAI, MM, UAI, AISTATS, NeurIPS, ICLR, ICML.

**Awards**

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| *Honorable Mention*, Nanyang Speech Forum, Singapore. | 2023 |
| *AISG PhD Fellowship*, National Research Foundation, Singapore. | 2021 |
| *First Price Scholarship*, THU, China. | 2018 |
| *Scholarship*, China Scholarship Council, China. | 2014 |
| *Bronze Medal*, China Physics Olympiad, China. | 2011 |

**Internship**

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| Research Intern, SenseTime, Beijing | Mar 2018 – Oct 2018 |
| Research Intern, Tencent YouTu Lab, Shanghai | Jul 2018 – Sep 2018 |
| Research Intern, MeiTuan, Beijing | Aug 2017 – Dec 2017 |

**Languages**

Chinese: Native language
English: Fluent (IELTS 7/9)
French: Intermediate (TCF 461/699)

[*CV compiled on 2025-07-22*]