Linwei Tao (Last updated: Jan 13, 2025)

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Education

School of Computer Science, University of Sydney — Sydney, Australia
Ph.D., Computer Science — 2023 - 2026 *(expected)*
- Advisors: Chang Xu & Daochang Liu
- Research area: Uncertainty Calibration, Machine Learning

School of Computer Science, University of Sydney — Sydney, Australia
M.Phil., Computer Science — 2021 - 2023
- Advisors: Chang Xu & Lijun chang
- Research area: Uncertainty Calibration, Neural Architecture Search

School of Computer Science, University of Sydney — Sydney, Australia
M.E., Data Science — 2020 - 2021

Huazhong University of Science and Technology — Wuhan, China
B.E., Communication Engineering — 2013 - 2017
- Received Science and Technology Scholarship

Publications

1. Jinxu Lin, **Linwei Tao**, Minjing Dong, Chang Xu. Uncertainty Weighted Gradients for Model Calibration. *The IEEE / CVF Computer Vision and Pattern Recognition Conference, CVPR* 2024.

2. Jinxu Lin, **Linwei Tao**, Minjing Dong, Chang Xu. Diffusion Attribution Score: Evaluating Training Data Influence in Diffusion Model. *International Conference on Learning Representations, ICLR* 2025. (Spotlight, 5.1% of 11,500 submissions)

3. **Linwei Tao**, Minjing Dong, Chang Xu. Feature Clipping for Uncertainty Calibration. *AAAI Conference on Artificial Intelligence, AAAI* 2025.

4. Lei Pan, Wuyang Luan, Yuan Zheng, Junhui Li, **Linwei Tao**, Chang Xu. GraphFusion: Integrating Multi-Level Semantic Information with Graph Computing for Enhanced 3D Instance Segmentation. *Neurocomputing*, 2024.

5. **Linwei Tao**, Younan Zhu, Haolan Guo, Minjing Dong, Chang Xu. A Benchmark Study on Calibration. *International Conference on Learning Representations, ICLR* 2024.

6. **Linwei Tao**, Minjing Dong, Chang Xu. Dual Focal Loss for Calibration. *International Conference on Machine Learning, ICML* 2023.

7. **Linwei Tao**, Minjing Dong, Daochang Liu, Changming Sun, Chang Xu. Calibrating a Deep Neural Network with Its Predecessors. *International Joint Conference on Artificial Intelligence, IJCAI* 2023.

8. Yingqing Yuan, **Linwei Tao**, Haohui Lu, Matloob Khushi, Imran Razzak, Mark Dras, Jian Yang, Usman Naseem. KG-UQ: Knowledge Graph-Based Uncertainty Quantification for Long Text in Large Language Models. *International World Wide Web Conference, WWW* 2025 Workshop on Sustainable AI for the Future Web

Preprints

1. **Linwei Tao**, Haolan Guo, Minjing Dong, Chang Xu. Consistency Calibration: Improving Uncertainty Calibration via Consistency among Perturbed Neighbors.

2. Yunke Wang, **Linwei Tao**, Bo Du, Yutian Lin, Chang Xu. Visual Imitation Learning with Calibrated Contrastive Representation.

3. Younan Zhu, **Linwei Tao**, Minjing Dong, Chang Xu. Attention Calibration for Reducing Hallucination in Large Vision-Language Models.

4. Haoyang Luo, **Linwei Tao**, Minjing Dong, Chang Xu. Beyond One-Hot Labels: Semantic Mixing for Model Calibration.

EXPERIENCES	**Teaching Assistant** | University of Sydney, Sydney	2022 - now

Teaching Assistant | University of Sydney, Sydney — 2022 - now
- COMP5329 Deep Learning — Spring 2022, 2023, 2024, 2025
- HTIN5005 Applied Healthcare Data Science — Fall 2022, 2023
- OCMP5329 Deep Learning (Online) — Fall 2024
- BUSS6002 Data Science in Business — Spring 2024, Fall 2024
- QBUS5010 Intro to Dashboarding and Data Visualisation — Fall 2024

Construction Supervisor | Songjiang Construction Union, Shanghai — 2017.07 - 2019.10

IOS Developer Intern | Trip.com, Shanghai — 2015.06 - 2015.09

Frontend Developer Intern | Sunallies, Shanghai — 2014.06 - 2014.09

AWARDS AND GRANTS

- **Faculty of Engineering Dean's Awards**, University of Sydney — 2025.02
- **Google Cloud Research Credits Award ($2340 AUD)**, Google — 2024.05
- **International Tuition Fee Scholarship**, USYD — 2023.06
- **Faculty of Engineering Research Support Scholarship**, USYD — 2023.05
- **Excellent Student Cadre**, HUST, — 2015.09
- **Science and Technology Scholarship**, HUST — 2014.06

TALKS

- "ITCD: Image to Text Translation for Classification by Diffusion Models", at Efficiency, Security, and Generalization of Multimedia Foundation Models Workshop @ ACM Multimedia 2024 — 2024.10
- "Dual Focal Loss for Calibration", at AI-Time — 2023.05
- "Calibrating a Deep Neural Network with Its Predecessors", at University of Sydney, Deep Learning class — 2023.02

ACADEMIC SERVICES

Conference Reviewer: *ICML, NeuIPS, ICLR, CVPR, ICCV, AAAI, IJCAI, ACMMM, AISTATS*

Journal Reviewer: *T-MM, TMLR, DAMI, TPAMI, Machine Learning*