Linwei Tao (Last updated: 29 Sep, 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. Haoyang Luo, **Linwei Tao**, Minjing Dong, Chang Xu. Beyond One-Hot Labels: Semantic Mixing for Model Calibration. *International Conference on Machine Learning, ICML* 2025.

2. Jinxu Lin, **Linwei Tao**, Minjing Dong, Chang Xu. Uncertainty Weighted Gradients for Model Calibration. *The IEEE / CVF Computer Vision and Pattern Recognition Conference, CVPR* 2025.

3. 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)

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

5. 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.

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

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

8. **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.

9. **Linwei Tao**, Yi-Fan Yeh, Minjing Dong, Tao Huang, Philip Torr, Chang Xu. Revisiting Uncertainty Estimation and Calibration of Large Language Models. *Conference on Neural Information Processing Systems, NeurIPS* 2025 Scaling Environments for Agents (SEA) Workshop

10. 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**, Yi-Fan Yeh, Bo Kai, Minjing Dong, Tao Huang, Tom A. Lamb, Jialin Yu, Philip H.S. Torr, Chang Xu. Can Large Language Models Express Uncertainty Like Human?

2. Haolan Guo, **Linwei Tao**, Haoyang Luo, Minjing Dong, Chang Xu. Sample Margin-Aware Recalibration of Temperature Scaling

3. Xiaoyang Li, **Linwei Tao**, Haohui Lu, Minjing Dong, Junbin Gao, Chang Xu. Calibrating Graph Neural Networks with Wavelet-Aware Temperature Scaling

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

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

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

Experiences

Research Scientist Intern | Google, Sydney	2025.11 - 2026.02
Teaching Assistant | University of Sydney, Sydney	2022 - now

- COMP5329 Deep Learning — Spring 2022, 2023, 2024, 2025
- COMP5318 Machine Learning and Data Mining — Fall 2025
- HTIN5005 Applied Healthcare Data Science — Fall 2022, 2023
- OCMP5329 Deep Learning (Online) — Fall 2024, 2025
- BUSS6002 Data Science in Business — Spring 2024, 2025 Fall 2024, 2025
- QBUS5010 Intro to Dashboarding and Data Visualisation — Fall 2024, 2025

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

- **AAAI 2026 Student Committee**, AAAI — 2025.06
- **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*