

Zheda Mai

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EDUCATION	Ph.D. Computer Science and Engineering, Ohio State University • Research areas: <ul style="list-style-type: none">• Parameter Efficient Transfer Learning• Continual Learning• Multimodal LLM• Learning with Imperfect Data • Advisor: Professor Wei-Lun (Harry) Chao • GPA: 4.0/4.0	2022-2027 (Expected)
	M.A.Sc. Information Engineering, University of Toronto • Research areas: Continual Learning, Recommender Systems • Advisor: Professor Scott Sanner • GPA: 4.0/4.0	2018-2021
	B.A.Sc. Engineering Science, University of Toronto	2012-2017

PUBLICATIONS * denotes equal contributions and co-first authorship.

Conferences

- [NeurIPS 2023] Cheng-Hao Tu*, Hong-You Chen*, **Zheda Mai**, Jike Zhong, Vardaan Pahuja, Tanya Berger-Wolf, Song Gao, Charles Steward, Yu Su, Wei-Lun Chao. Holistic Transfer: Towards Non-Disruptive Fine-Tuning with Partial Target Data. In *Proceedings of the Conference on Neural Information Processing Systems (NeurIPS)*, 2023.
- [CVPR 2023] **Zheda Mai***, Cheng-Hao Tu*, Wei-Lun Chao. Visual Query Tuning: Towards Effective Usage of Intermediate Representations for Parameter and Memory Efficient Transfer Learning. In *Proceedings of the Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023.
- [WWW 2022] Tianshu Shen*, **Zheda Mai***, Ga Wu, Scott Sanner. Distributional Contrastive Embedding for Clarification-based Conversational Critiquing. In *Proceedings of the ACM Web Conference (WWW)*, 2022.
- [SIGIR 2022] Zhaolin Gao, Tianshu Shen, **Zheda Mai**, Mohamed Reda Bouadjenek, Scott Sanner. Mitigating the Filter Bubble while Maintaining Relevance: Targeted Diversification with VAE-based Recommender Systems. In *Proceedings of Special Interest Group on Information Retrieval (SIGIR)*, 2022.
- [AAAI 2021] **Zheda Mai***, Dongsub Shim*, Jihwan Jeong*, Scott Sanner, Hyunwoo Kim, Jongseong Jang. Online Class-Incremental Continual Learning with Adversarial Shapley Value. In *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI)*, 2021.

Journals

- [JVCi 2023] Ruiwen Li, **Zheda Mai**, Chiheb Trabelsi, Zhibo Zhang, Jongseong Jang, Scott Sanner. TransCAM: Transformer Attention-based CAM Refinement for Weakly Supervised Semantic Segmentation. In *Journal of Visual Communication and Image Representation (JVCi)*, 2023.
- [IPM 2023] Tianshu Shen, Jiaru Li, Mohamed Reda Bouadjenek, **Zheda Mai**, Scott Sanner. Unintended Bias in Language Model-driven Conversational Recommendation. In *Information Processing and Management (IPM)*, 2023.
- [Neurocomputing 2022] **Zheda Mai**, Ruiwen Li, Jihwan Jeong, David Quispe, Hyunwoo Kim, Scott Sanner. Online Continual Learning in Image Classification: An Empirical Survey. In *Neurocomputing*, 2022.

[AIJ 2022] Vincenzo Lomonaco, . . . , **Zheda Mai**, etc. CVPR 2020 Continual Learning in Computer Vision Competition: Approaches, Results, Current Challenges and Future Directions. In *Artificial Intelligence Journal (AIJ)*, 2022.

Workshops

- [NeurIPS 2023] Tianle Chen*, **Zheda Mai***, Ruiwen Li, Wei-lun Chao. Segment Anything Model (SAM) Enhanced Pseudo Labels for Weakly Supervised Semantic Segmentation. In *Proceedings of the Conference on Neural Information Processing Systems (NeurIPS) Workshops*, 2023.
- [CVPR 2021] **Zheda Mai**, Ruiwen Li, Hyunwoo Kim, Scott Sanner. Supervised Contrastive Replay: Revisiting the Nearest Class Mean Classifier in Online Class-Incremental Continual Learning. In *Proceedings of the Conference on Computer Vision and Pattern Recognition (CVPR) Workshops*, 2021.
- [CVPR 2020] **Zheda Mai**, Hyunwoo Kim, Jihwan Jeong, Scott Sanner. Batch-level Experience Replay with Review for Continual Learning. In *Proceedings of the Conference on Computer Vision and Pattern Recognition (CVPR) Workshops*, 2020.
- [ICDM 2020] **Zheda Mai***, Ga Wu*, Kai Luo, Scott Sanner. Attentive Autoencoders for Multifaceted Preference Learning in One-class Collaborative Filtering. In *Proceedings of International Conference on Data Mining (ICDM) Workshops*, 2020.

Under Review

- [R1] **Zheda Mai**, Ping Zhang, Cheng-Hao Tu, Hong-You Chen, Li Zhang, Wei-Lun Cha. Lessons Learned from a Unifying Empirical Study of Parameter-Efficient Transfer Learning (PETL) in Visual Recognition, 2024
- [R2] Jihyung Kil*, **Zheda Mai***, Justin Lee, Zihe Wang, Kerrie Cheng, Lemeng Wang, Ye Liu, Arpita Chowdhury, Wei-Lun Chao. CompBench: A Comparative Reasoning Benchmark for Multimodal LLMs, 2024
- [R3] **Zheda Mai***, Arpita Chowdhury*, Ping Zhang*, Cheng-Hao Tu, Hong-You Chen, Vardaan Pahuja, Tanya Berger-Wolf, Song Gao, Charles Steward, Yu Su, Wei-Lun Chao. Fine-Tuning is Fine, if Calibrated, 2024

Technical Reports

- [T1] JinPeng Zhou, Ga Wu, **Zheda Mai**, Scott Sanner. Noise Contrastive Estimation for Autoencoding-based Collaborative Filtering, 2020.

AWARDS	• Outstanding Reviewer Award for NeurIPS 2023	2023
	• 4th place of the CLVision Continual Learning challenge at CVPR 2021	2021
	• 1st place of the CLVision Continual Learning challenge at CVPR 2020	2020
EXPERIENCE	Research Intern , <i>Bosch Research</i> , Sunnyvale	May 2024 - Aug. 2024
	• Developed multimodal foundation models for time series and vision.	
	Data Scientist , <i>Optimy AI</i> , Canada	2021-2022
	• Machine learning models for customer engagement and purchase likelihood predictions.	
	Machine Learning Engineer Intern , <i>Pitney Bowes</i> , Canada	May 2019 - Oct. 2019
SKILLS	• Map style extraction models with CNN and multi-task learning. map data.	
	Software Engineer Intern , <i>AMD</i> , Canada	2015 - 2016
	• Design verification tool automation.	
SKILLS	Techniques: Python, SQL, Git, LaTeX, AWS, PySpark, JavaScript	
	Machine Learning Tools: PyTorch, Keras, TensorFlow, NumPy, Pandas, SciPy, scikit-learn	

PROFESSIONAL SERVICE I am a conference reviewer for

- NeurIPS-2023, 2024
- ICML-2023, 2024
- ICLR-2024
- CVPR-2024
- IJCAI-2024

I am a journal reviewer for

- ACM Computing Surveys
- Artificial Intelligence (AIJ)
- Frontiers in Artificial Intelligence

TALKS

- Continual Learning in Image Classification. Vector Institute.
- Recent Advances in Continual Learning. D3M Lab, University of Toronto

July 2020

Jan. 2022

TEACHING

Teaching Assistant

University of Toronto

- APS1070: Foundations of Data Analytics and Machine Learning (2019, 2020)
- MIE451: Decision Support Systems (2019, 2020)
- MIE1628: Big Data Science (2020)