

Zheda Mai

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 <https://zheda-mai.github.io>

EDUCATION	Ph.D. Computer Science and Engineering, Ohio State University • Research areas: <ul style="list-style-type: none">• Parameter Efficient Transfer Learning• Continual Learning• 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 • Electrical Engineering Major with Engineering Business Minor	2012-2017

PUBLICATIONS

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] **Zheda Mai***, Tianshu Shen* 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***, Jihwan Jeong*, Dongsub Shim*, 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] **Zheda Mai***, Tianle Chen*, 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.

Technical Reports

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

AWARDS	<ul style="list-style-type: none">• 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
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PROFESSIONAL SERVICE	I am a conference reviewer for <ul style="list-style-type: none">• NeurIPS-2023• ICML-2023, 2024• ICLR-2024• CVPR-2024• IJCAI-2024 I am a journal reviewer for <ul style="list-style-type: none">• Artificial Intelligence (AIJ)• Frontiers in Artificial Intelligence
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SKILLS	Techniques: Python, SQL, Git, LaTeX, AWS, PySpark, JavaScript Machine Learning Tools: PyTorch, Keras, TensorFlow, NumPy, Pandas, SciPy, scikit-learn
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TALKS	<ul style="list-style-type: none">• Continual Learning in Image Classification. Vector Institute. July 2020• Recent Advances in Continual Learning. D3M Lab, University of Toronto Jan. 2022
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TEACHING	Teaching Assistant University of Toronto <ul style="list-style-type: none">• APS1070: Foundations of Data Analytics and Machine Learning (2019, 2020)• MIE451: Decision Support Systems (2019, 2020)• MIE1628: Big Data Science (2020)
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EXPERIENCE	Data Scientist , <i>Optimy AI</i> , Canada 2021-2022
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- Developed machine learning models for customer engagement prediction, high-valued customer identification, and purchase likelihood prediction.
- Designed and implemented business intelligence analytic solutions in Power BI.
- Designed and maintained the real-time click stream data system.

Machine Learning Engineer Intern, *Pitney Bowes*, Canada

May 2019 - Oct. 2019

- Built a map style extraction model with CNN and multi-task learning in TensorFlow and Keras.
- Developed MapBasic scripts to generate and augment 500k raster map data.

Software Engineer Intern, *AMD*, Canada

2015 - 2016

- Automated Lint, Synthesis and other design verification tools using Python for faster design cycles.
- Provided support for various design verification tools for a team with over 120 Engineers globally.