Zheda Mai

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: https://zheda-mai.github.io
: https://github.com/RaptorMai

EDUCATION

M.A.Sc. Information Engineering, **University of Toronto** 2018-2021
- Research areas: Continual Learning in Computer Vision, Recommender System
- Advisor: Professor Scott Sanner
- GPA: 4.0/4.0

B.A.Sc. Engineering Science, **University of Toronto** 2012-2017
- Electrical Engineering Major with Engineering Business Minor

PUBLICATIONS

[1] **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.

[2] **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.

[3] **Zheda Mai**, Ruiwen Li, Jihwan Jeong, David Quispe, Hyunwoo Kim, Scott Sanner, Online Continual Learning in Image Classification: An Empirical Survey. In ***Neurocomputing***, 2021.

[4] Tianshu Shen, **Zheda Mai**, Ga Wu, Scott Sanner. Distributional Contrastive Embedding for Clarification based Conversational Critiquing. In *Proceedings of International World Wide Web Conferences **(WWW)***, 2022.

[5] **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.

[6] 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)***, 2021.

[7] Tianshu Shen, Jiaru Li, Mohamed Reda Bouadjenek, **Zheda Mai**, Scott Sanner. Unintended Bias in Language Model-driven Conversational Recommendation. Submitted to *Special Interest Group on Information Retrieval **(SIGIR)***, 2022.

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

AWARDS

- **1st place** of the CLVision Continual Learning challenge at **CVPR** 2020 2020
  Zheda Mai, Scott Sanner. Batch-level Experience Replay with Review for Continual Learning
- **4th place** of the CLVision Continual Learning challenge at **CVPR** 2021 2021
  Zheda Mai. Supervised Contrastive Replay for Continual Learning

EXPERIENCE

Data Scientist, *Optimy AI*, Canada 2021-now
- Developed machine learning models for customer engagement prediction, high-valued customer identification, purchase likelihood prediction and dynamic product recommender systems.
- Designed and implemented business intelligence analytic solutions in Power BI.
- Deployed real-time clickstream data pipeline with Snowplow in AWS.

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.

- Conducted error analysis and hyperparameter tuning to improve accuracy from 60% to 89%.

Software Engineer Intern, *AMD*, Canada 2015-2016
- Automated Lint, Synthesis and other design verification tools using Python for faster design cycles.
- Provided supports for various design verification tools for a team with over 120 Engineers globally.

Software Engineer, *KapCha*, Canada 2017-2018
- Designed and developed the back-end and front-end of an on-demand professional photographer booking platform in Python (Django), PostgreSQL, jQuery, Bootstrap and AWS S3.
- Assisted software deployment in AWS with Elastic Beanstalk.

TEACHING

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

PROFESSIONAL SERVICE

I am a journal reviewer for
- Information Fusion

TALKS

- Continual Learning in Image Classification. Vector Institute. July 2020

SKILLS

Techniques: Python, SQL, Git, LaTex, AWS, PySpark, JavaScript
Machine Learning Tools: PyTorch, Keras, TensorFlow, NumPy, Pandas, SciPy, scikit-learn