Wenxuan ZHANG

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Research Interest

- Safety Alignment (ongoing project). Align language models for harmlessness.
- Continual finetuning. Expand the knowledge base of foundation models with emerging properties.
- Continual Learning in realistic scenarios. Dealing with large-scale data streams and unlabeled data in CL.

Education

- **King Abdullah University of Science and Technology**, Thuwal, Saudi Arabia. 2022.1 – present
  Ph.D., Computer Science, supervised by Prof. Mohamed Elhoseiny.
- **University of Pennsylvania**, Philadelphia, United States. 2019.8 – 2021.12
  M.A., Applied Mathematics and Computational Science. GPA: 3.92/4.00
  Thesis title: *Factorized lifelong machine learning on non-stationary tasks: An algorithm and analysis*.
- **Beijing Normal University**, Beijing, China. 2015.9 – 2019.6
  B.S., Mathematics and Applied Mathematics. GPA: 90.5/100
  Thesis title: *A hand gesture recognition module for medical robots*.

Academic Experience

- **Visiting student**, Torr Vision Group, University of Oxford, Oxford, United Kingdom. 2023.7 - 2023.11
  Supervised by Dr. Adel Bibi and Prof. Philip Torr.
- **Master thesis student**, LML group, Upenn, Philadelphia, United States. 2020.7 - 2021.12
  Supervised by Prof. Eric Eaton.
- **Deep learning engineer**, Vision Algorithm group, RED, Beijing, China. 2021.8 - 2021.11
  Developed an efficient speaker verification system for video rating.

Research Publications

Conference Proceedings

1. **Wenxuan Zhang**, Y. Mohamed, B. Ghanem, P. Torr, A. Bibi, and M. Elhoseiny, "Continual learning on a diet: Learning from sparse labeled streams under constrained computation," in *International Conference on Learning Representations*, 2024.
2. P. Janson, **Wenxuan Zhang**, R. Aljundi, and M. Elhoseiny, "A simple baseline that questions the use of pretrained-models in continual learning," in *NeurIPS 2022 Workshop on Distribution Shifts: Connecting Methods and Applications*, 2022. URL: https://openreview.net/forum?id=dnVNYctP3S.
3. **Wenxuan Zhang**, P. Janson, K. Yi, I. Skorokhodov, and M. Elhoseiny, "Continual zero-shot learning through semantically guided generative random walks," in *International Conference on Computer Vision*, 2023. URL: https://openaccess.thecvf.com/content/ICCV2023/papers/Zhang_Continual_Zero-Shot_Learning_through_Semantically_Guided_Generative_Random_Walks_ICCV_2023_paper.pdf.
4. H. Xu, **Wenxuan Zhang**, J. Fei, *et al.*, "Slamb: Accelerated large batch training with sparse communication," in *International Conference on Machine Learning*, 2023. URL: https://proceedings.mlr.press/v202/xu23v.html.

Preprint

1. **Wenxuan Zhang**, P. Janson, R. Aljundi, and M. Elhoseiny, *Overcoming general knowledge loss with selective parameter finetuning*, In submission to CVPR 2024. arXiv: 2308.12462.
2. B. Csaba*, **Wenxuan Zhang***, M. Müller, *et al.*, *Label delay in continual learning*, 2023. arXiv: 2312.00923.
3. D. Zhu, J. Chen, K. Haydarov, X. Shen, **Wenxuan Zhang**, and M. Elhoseiny, *Chatgpt asks, blip-2 answers: Automatic questioning towards enriched visual descriptions*, In submission to TMLR. arXiv: 2303.06594.

Academic Services

- **Conference reviewer**, ICLR, NeurIPs, CVPR, ICCV, TPMAI, CLAI Unconf 2022 - present
- **Teaching Assistant**, CS 326 Low Resource Deep Learning 2022.8 - 2022.12

Skills

- **Languages**: Strong reading, writing and speaking competencies for English and Mandarin Chinese.
- **Coding**: Python, LaTeX, MATLAB, CUDA, C++,

Awards

- KAUST Graduate Scholarship. 2022 - present
- First Class of Jingshi Scholarship, BNU. 2018
- Meritorious Winner, COMAP's Mathematical Contest in Modeling (MCM). 2018
- Athe Plan for Cultivating Top-notch Students of Basic Disciplines by Ministry of Education. 2015