Where do we go from here?

Binary indicators

Paired comparisons

Rankings

PAQs

Absolute rating

Free response

How can we incorporate *all types* of feedback?

- For large models:
  - Can we design ***simple + scalable*** algorithms for training?
  - What types/mix of feedback are most helpful?
- Statistically:
  - Rigorously analyze learning with mixed feedback?

Publications

- **A. Xu**, W. Monroe, K. Bicknell, “Large language model augmented exercise retrieval for personalized language learning,” in *Proc. Conf. on Learning Analytics and Knowledge (LAK),* Kyoto, March 2024. (Aim 4 work)

- **A. Xu**, A. D. McRae, J. Wang, M. A. Davenport, A. Pananjady, “Perceptual adjustment queries and an inverted measurement paradigm for low-rank metric learning,” in *Proc. Conf. on Neural Information Processing Systems (NeurIPS),* New Orleans, December 2023. (Aim 2 work)

- **A. Xu**, M. I. Vasileva, A. Dave, A. Seshadri, “HandsOff: Labeled dataset generation with no additional human annotations,” in *Proc. Conf. on Computer Vision and Pattern Recognition (CVPR)*, Vancouver, June 2023. **Highlight Award.** (Aim 3 work)

- **A. Xu** and M. A. Davenport, “Simultaneous Preference and Metric Learning from Paired Comparisons,” in *Proc. Conf. on Neural Information Processing Systems (NeurIPS)*, Online, December 2020. **Spotlight Presentation.** (Aim 1 work)

- N. Nadagouda, **A. Xu**, M. A. Davenport, “Active metric learning and classification using similarity queries,” in *Proc. Conf. on Uncertainty in Artificial Intelligence (UAI)*, Pittsburgh, July 2023.

- A. McRae, **A. Xu**, J. Jin, N. Nadagouda, N. Ahad, P. Guan, S. Karnik, M. A. Davenport, “Delta Distancing: A lifting approach to localizing items from user comparisons,” in *Proc. IEEE Int. Conf. on Acoustics, Speech, and Signal Processing (ICASSP)*, Singapore, May 2022.