## Vision Models' Interpretability

- 1. Distilling model failures as directions in latent space [15]
- 2. Fairness without demographics in repeated loss minimization [11]
- 3. Domino: Discovering systematic errors with cross-modal embeddings [8]
- 4. The spotlight: A general method for discovering systematic errors in deep learning models [6]
- 5. Where does my model underperform? a human evaluation of slice discovery algorithms [19]
- 6. Discovering and mitigating visual biases through keyword explanation [20]
- 7. Recognize anything: A strong image tagging model [32]
- 8. Decomposing and interpreting image representations via text in vits beyond CLIP [1]
- 9. Label-free concept bottleneck models [28]
- 10. Language in a bottle: Language model guided concept bottlenecks for interpretable image classification [31]

## Knowledge Localization, and Model Editing in Text-to-Image Models

- 1. Localizing and editing knowledge in text-to-image generative models [2]
- 2. On Mechanistic Circuits for Extractive Question-Answering [3]
- 3. Prompt-to-prompt image editing with cross attention control [12]
- 4. Towards understanding cross and self-attention in stable diffusion for text-guided image editing [23]
- 5. Model editing at scale leads to gradual and catastrophic forgetting [10]
- 6. What the daam: Interpreting stable diffusion using cross attention [30]
- 7. Discovering latent knowledge in language models without supervision [4]

- 8. Locating and editing factual associations in gpt [26]
- 9. Mass-editing memory in a transformer [27]
- 10. Editing implicit assumptions in text-to-image diffusion models [29]

## Unlearning in Large Language Models

- 1. Who's harry potter? approximate unlearning for LLMs [7]
- 2. Unlearn what you want to forget: Efficient unlearning for llms [5]
- 3. Corrective machine unlearning [9]
- 4. Editing models with task arithmetic [13]
- 5. Knowledge sanitization of large language models [14]
- 6. Knowledge unlearning for mitigating privacy risks in language model [16].
- 7. Soul: Unlocking the power of second-order optimization for llm unlearning [17]
- 8. Rwku: Benchmarking real-world knowledge unlearning for large language models [18]
- 9. Privacy adhering machine un-learning in nlp [21]
- 10. The wmdp benchmark: Measuring and reducing malicious use with unlearning [22]
- 11. Rethinking machine unlearning for large language models [24]
- 12. Tofu: A task of fictitious unlearning for llms [25]

## References

- [1] Sriram Balasubramanian, Samyadeep Basu, and Soheil Feizi. Decomposing and interpreting image representations via text in vits beyond clip. *Advances in Neural Information Processing Systems*, 37:81046–81076, 2024.
- [2] Samyadeep Basu, Nanxuan Zhao, Vlad Morariu, Soheil Feizi, and Varun Manjunatha. Localizing and editing knowledge in text-to-image generative models. 2024.

- [3] Samyadeep Basu, Vlad Morariu, Zichao Wang, Ryan Rossi, Cherry Zhao, Soheil Feizi, and Varun Manjunatha. On mechanistic circuits for extractive question-answering. arXiv preprint arXiv:2502.08059, 2025.
- [4] Collin Burns, Haotian Ye, Dan Klein, and Jacob Steinhardt. Discovering latent knowledge in language models without supervision. arXiv preprint arXiv:2212.03827, 2022.
- [5] Jiaao Chen and Diyi Yang. Unlearn what you want to forget: Efficient unlearning for llms. arXiv preprint arXiv:2310.20150, 2023.
- [6] Greg d'Eon, Jason d'Eon, James R Wright, and Kevin Leyton-Brown. The spotlight: A general method for discovering systematic errors in deep learning models. In *Proceedings* of the 2022 ACM Conference on Fairness, Accountability, and Transparency, pages 1962–1981, 2022.
- [7] Ronen Eldan and Mark Russinovich. Who's harry potter? approximate unlearning for llms. 2023.
- [8] Sabri Eyuboglu, Maya Varma, Khaled Saab, Jean-Benoit Delbrouck, Christopher Lee-Messer, Jared Dunnmon, James Zou, and Christopher Ré. Domino: Discovering systematic errors with cross-modal embeddings. arXiv preprint arXiv:2203.14960, 2022.
- [9] Shashwat Goel, Ameya Prabhu, Philip Torr, Ponnurangam Kumaraguru, and Amartya Sanyal. Corrective machine unlearning. arXiv preprint arXiv:2402.14015, 2024.
- [10] Akshat Gupta, Anurag Rao, and Gopala Anumanchipalli. Model editing at scale leads to gradual and catastrophic forgetting. arXiv preprint arXiv:2401.07453, 2024.
- [11] Tatsunori Hashimoto, Megha Srivastava, Hongseok Namkoong, and Percy Liang. Fairness without demographics in repeated loss minimization. In *International Conference on Machine Learning*, pages 1929–1938. PMLR, 2018.
- [12] Amir Hertz, Ron Mokady, Jay Tenenbaum, Kfir Aberman, Yael Pritch, and Daniel Cohen-Or. Prompt-to-prompt image editing with cross attention control. arXiv preprint arXiv:2208.01626, 2022.
- [13] Gabriel Ilharco, Marco Tulio Ribeiro, Mitchell Wortsman, Suchin Gururangan, Ludwig Schmidt, Hannaneh Hajishirzi, and Ali Farhadi. Editing models with task arithmetic. arXiv preprint arXiv:2212.04089, 2022.
- [14] Yoichi Ishibashi and Hidetoshi Shimodaira. Knowledge sanitization of large language models. arXiv preprint arXiv:2309.11852, 2023.

- [15] Saachi Jain, Hannah Lawrence, Ankur Moitra, and Aleksander Madry. Distilling model failures as directions in latent space. arXiv preprint arXiv:2206.14754, 2022.
- [16] Joel Jang, Dongkeun Yoon, Sohee Yang, Sungmin Cha, Moontae Lee, Lajanugen Logeswaran, and Minjoon Seo. Knowledge unlearning for mitigating privacy risks in language models. arXiv preprint arXiv:2210.01504, 2022.
- [17] Jinghan Jia, Yihua Zhang, Yimeng Zhang, Jiancheng Liu, Bharat Runwal, James Diffenderfer, Bhavya Kailkhura, and Sijia Liu. Soul: Unlocking the power of second-order optimization for llm unlearning. arXiv preprint arXiv:2404.18239, 2024.
- [18] Zhuoran Jin, Pengfei Cao, Chenhao Wang, Zhitao He, Hongbang Yuan, Jiachun Li, Yubo Chen, Kang Liu, and Jun Zhao. Rwku: Benchmarking real-world knowledge unlearning for large language models. *Advances in Neural Information Processing Systems*, 37:98213–98263, 2024.
- [19] Nari Johnson, Ángel Alexander Cabrera, Gregory Plumb, and Ameet Talwalkar. Where does my model underperform? a human evaluation of slice discovery algorithms. In *Proceedings of the AAAI Conference on Human Computation and Crowdsourcing*, volume 11, pages 65–76, 2023.
- [20] Younghyun Kim, Sangwoo Mo, Minkyu Kim, Kyungmin Lee, Jaeho Lee, and Jinwoo Shin. Discovering and mitigating visual biases through keyword explanation. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*, pages 11082–11092, 2024.
- [21] Vinayshekhar Bannihatti Kumar, Rashmi Gangadharaiah, and Dan Roth. Privacy adhering machine un-learning in nlp. arXiv preprint arXiv:2212.09573, 2022.
- [22] Nathaniel Li, Alexander Pan, Anjali Gopal, Summer Yue, Daniel Berrios, Alice Gatti, Justin D Li, Ann-Kathrin Dombrowski, Shashwat Goel, Long Phan, et al. The wmdp benchmark: Measuring and reducing malicious use with unlearning. arXiv preprint arXiv:2403.03218, 2024.
- [23] Bingyan Liu, Chengyu Wang, Tingfeng Cao, Kui Jia, and Jun Huang. Towards understanding cross and self-attention in stable diffusion for text-guided image editing. In Proceedings of the IEEE/CVF conference on computer vision and pattern recognition, pages 7817–7826, 2024.

- [24] Sijia Liu, Yuanshun Yao, Jinghan Jia, Stephen Casper, Nathalie Baracaldo, Peter Hase, Yuguang Yao, Chris Yuhao Liu, Xiaojun Xu, Hang Li, et al. Rethinking machine unlearning for large language models. *Nature Machine Intelligence*, pages 1–14, 2025.
- [25] Pratyush Maini, Zhili Feng, Avi Schwarzschild, Zachary C Lipton, and J Zico Kolter. Tofu: A task of fictitious unlearning for llms. arXiv preprint arXiv:2401.06121, 2024.
- [26] Kevin Meng, David Bau, Alex Andonian, and Yonatan Belinkov. Locating and editing factual associations in gpt. Advances in neural information processing systems, 35: 17359–17372, 2022.
- [27] Kevin Meng, Arnab Sen Sharma, Alex Andonian, Yonatan Belinkov, and David Bau. Mass-editing memory in a transformer. arXiv preprint arXiv:2210.07229, 2022.
- [28] Tuomas Oikarinen, Subhro Das, Lam M Nguyen, and Tsui-Wei Weng. Label-free concept bottleneck models. arXiv preprint arXiv:2304.06129, 2023.
- [29] Hadas Orgad, Bahjat Kawar, and Yonatan Belinkov. Editing implicit assumptions in text-to-image diffusion models. In *Proceedings of the IEEE/CVF International Conference on Computer Vision*, pages 7053–7061, 2023.
- [30] Raphael Tang, Linqing Liu, Akshat Pandey, Zhiying Jiang, Gefei Yang, Karun Kumar, Pontus Stenetorp, Jimmy Lin, and Ferhan Ture. What the daam: Interpreting stable diffusion using cross attention. arXiv preprint arXiv:2210.04885, 2022.
- [31] Yue Yang, Artemis Panagopoulou, Shenghao Zhou, Daniel Jin, Chris Callison-Burch, and Mark Yatskar. Language in a bottle: Language model guided concept bottlenecks for interpretable image classification. In *Proceedings of the IEEE/CVF conference on computer vision and pattern recognition*, pages 19187–19197, 2023.
- [32] Youcai Zhang, Xinyu Huang, Jinyu Ma, Zhaoyang Li, Zhaochuan Luo, Yanchun Xie, Yuzhuo Qin, Tong Luo, Yaqian Li, Shilong Liu, et al. Recognize anything: A strong image tagging model. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*, pages 1724–1732, 2024.