

- Saxton, D., Grefenstette, E., Hill, F., and Kohli, P. Analysing mathematical reasoning abilities of neural models. In *International Conference on Learning Representations*, 2019.
- Stolfo, A., Belinkov, Y., and Sachan, M. Understanding arithmetic reasoning in language models using causal mediation analysis. *CoRR*, abs/2305.15054, 2023.
- Szegedy, C., Zaremba, W., Sutskever, I., Bruna, J., Erhan, D., Goodfellow, I., and Fergus, R. Intriguing properties of neural networks. In *International Conference on Learning Representations*, 2014.
- Taori, R., Gulrajani, I., Zhang, T., Dubois, Y., Li, X., Guestrin, C., Liang, P., and Hashimoto, T. B. Stanford alpaca: An instruction-following llama model. 2023.
- Thawani, A., Pujara, J., Ilievski, F., and Szekely, P. A. Representing numbers in NLP: a survey and a vision. In *Proceedings of the 2021 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies, NAACL-HLT 2021, Online, June 6-11, 2021*, pp. 644–656, 2021.
- Touvron, H., Martin, L., Stone, K., Albert, P., Almahairi, A., Babaei, Y., Bashlykov, N., Batra, S., Bhargava, P., Bhosale, S., et al. Llama 2: Open foundation and fine-tuned chat models. *arXiv preprint arXiv:2307.09288*, 2023a.
- Touvron, H., Martin, L., Stone, K., Albert, P., Almahairi, A., Babaei, Y., Bashlykov, N., Batra, S., Bhargava, P., Bhosale, S., et al. Llama 2: Open foundation and fine-tuned chat models. *arXiv preprint arXiv:2307.09288*, 2023b.
- Uesato, J., Kushman, N., Kumar, R., Song, F., Siegel, N., Wang, L., Creswell, A., Irving, G., and Higgins, I. Solving math word problems with process- and outcome-based feedback. *arXiv preprint arXiv:2211.14275*, 2022.
- Vig, J., Gehrman, S., Belinkov, Y., Qian, S., Nevo, D., Singer, Y., and Shieber, S. Investigating gender bias in language models using causal mediation analysis. In *Advances in Neural Information Processing Systems*, volume 33, pp. 12388–12401, 2020.
- Wang, K. R., Variengien, A., Conmy, A., Shlegeris, B., and Steinhardt, J. Interpretability in the wild: a circuit for indirect object identification in GPT-2 small. In *International Conference on Learning Representations*, 2023a.
- Wang, X., Wei, J., Schuurmans, D., Le, Q. V., Chi, E. H., Narang, S., Chowdhery, A., and Zhou, D. Self-consistency improves chain of thought reasoning in language models. In *The Eleventh International Conference on Learning Representations*, 2023b.
- Wang, Y., Liu, X., and Shi, S. Deep neural solver for math word problems. In *Proceedings of the 2017 Conference on Empirical Methods in Natural Language Processing, EMNLP 2017, Copenhagen, Denmark, September 9-11, 2017*, pp. 845–854, 2017.
- Wei, J., Tay, Y., Bommasani, R., Raffel, C., Zoph, B., Borgeaud, S., Yogatama, D., Bosma, M., Zhou, D., Metzler, D., Chi, E., Hashimoto, T., Vinyals, O., Liang, P., Dean, J., and Fedus, W. Emergent abilities of large language models. *ArXiv*, abs/2206.07682, 2022a.
- Wei, J., Tay, Y., Bommasani, R., Raffel, C., Zoph, B., Borgeaud, S., Yogatama, D., Bosma, M., Zhou, D., Metzler, D., Chi, E. H., Hashimoto, T., Vinyals, O., Liang, P., Dean, J., and Fedus, W. Emergent abilities of large language models. *Trans. Mach. Learn. Res.*, 2022, 2022b.
- Wei, J., Wang, X., Schuurmans, D., Bosma, M., Ichter, B., Xia, F., Chi, E. H., Le, Q. V., and Zhou, D. Chain-of-thought prompting elicits reasoning in large language models. In *Advances in Neural Information Processing Systems*, 2022c.
- Wiegreffe, S. and Pinter, Y. Attention is not explanation. In *Proceedings of the 2019 Conference on Empirical Methods in Natural Language Processing and the 9th International Joint Conference on Natural Language Processing, EMNLP-IJCNLP 2019, Hong Kong, China, November 3-7, 2019*, pp. 11–20. Association for Computational Linguistics, 2019.
- Wu, Z., Geiger, A., Potts, C., and Goodman, N. D. Interpretability at scale: Identifying causal mechanisms in alpaca. *CoRR*, abs/2305.08809, 2023.
- Yu, L., Bowen, Y., Yu, H., Huang, F., and Li, Y. Language models are super mario: Absorbing abilities from homologous models as a free lunch. *ArXiv*, abs/2311.03099, 2023.
- Zelikman, E., Wu, Y., Mu, J., and Goodman, N. STar: Bootstrapping reasoning with reasoning. In *Advances in Neural Information Processing Systems*, 2022.