

- Tom B. Brown, Benjamin Mann, Nick Ryder, Melanie Subbiah, Jared Kaplan, Prafulla Dhariwal, Arvind Neelakantan, Pranav Shyam, Girish Sastry, Amanda Askell, Sandhini Agarwal, Ariel Herbert-Voss, Gretchen Krueger, Tom Henighan, Rewon Child, Aditya Ramesh, Daniel M. Ziegler, Jeffrey Wu, Clemens Winter, Christopher Hesse, Mark Chen, Eric Sigler, Mateusz Litwin, Scott Gray, Benjamin Chess, Jack Clark, Christopher Berner, Sam McCandlish, Alec Radford, Ilya Sutskever, and Dario Amodei. Language models are few-shot learners. *CoRR*, abs/2005.14165, 2020. URL <https://arxiv.org/abs/2005.14165>.
- Collin Burns, Haotian Ye, Dan Klein, and Jacob Steinhardt. Discovering latent knowledge in language models without supervision, 2022.
- Nicholas Carlini, Florian Tramer, Eric Wallace, Matthew Jagielski, Ariel Herbert-Voss, Katherine Lee, Adam Roberts, Tom Brown, Dawn Song, Ulfar Erlingsson, et al. Extracting training data from large language models. In *30th USENIX Security Symposium (USENIX Security 21)*, pp. 2633–2650, 2021.
- Nicolas Carlini, Jamie Hayes, Milad Nasr, Matthew Jagielski, Vikash Sehwal, Florian Tramer, Borja Balle, Daphne Ippolito, and Eric Wallace. Extracting training data from diffusion models. In *32nd USENIX Security Symposium (USENIX Security 23)*, pp. 5253–5270, 2023.
- Joseph Carlsmith. Is power-seeking ai an existential risk? *arXiv preprint arXiv:2206.13353*, 2022.
- Joseph Carlsmith. Existential risk from power-seeking ai. *Oxford University Press*, 2023.
- Mathilde Caron, Hugo Touvron, Ishan Misra, Hervé Jégou, Julien Mairal, Piotr Bojanowski, and Armand Joulin. Emerging properties in self-supervised vision transformers, 2021.
- Yida Chen, Fernanda Viégas, and Martin Wattenberg. Beyond surface statistics: Scene representations in a latent diffusion model, 2023.
- Wei-Lin Chiang, Zhuohan Li, Zi Lin, Ying Sheng, Zhanghao Wu, Hao Zhang, Lianmin Zheng, Siyuan Zhuang, Yonghao Zhuang, Joseph E. Gonzalez, Ion Stoica, and Eric P. Xing. Vicuna: An open-source chatbot impressing gpt-4 with 90%\* chatgpt quality, March 2023.
- Christopher Clark, Kenton Lee, Ming-Wei Chang, Tom Kwiatkowski, Michael Collins, and Kristina Toutanova. Boolq: Exploring the surprising difficulty of natural yes/no questions. In *NAACL*, 2019a.
- Kevin Clark, Urvashi Khandelwal, Omer Levy, and Christopher D. Manning. What does BERT look at? an analysis of BERT’s attention. In *Proceedings of the 2019 ACL Workshop BlackboxNLP: Analyzing and Interpreting Neural Networks for NLP*, pp. 276–286, Florence, Italy, August 2019b. Association for Computational Linguistics. doi: 10.18653/v1/W19-4828.
- Peter Clark, Isaac Cowhey, Oren Etzioni, Tushar Khot, Ashish Sabharwal, Carissa Schoenick, and Oyvind Tafjord. Think you have solved question answering? try arc, the AI2 reasoning challenge. *CoRR*, abs/1803.05457, 2018.
- Michael R. Cunningham. Weather, mood, and helping behavior: Quasi experiments with the sunshine samaritan. *Journal of Personality and Social Psychology*, 37:1947–1956, 1979.
- Jacob Devlin, Ming-Wei Chang, Kenton Lee, and Kristina Toutanova. BERT: pre-training of deep bidirectional transformers for language understanding. *CoRR*, abs/1810.04805, 2018.
- Paul Ekman. Universals and cultural differences in facial expression of emotion. *Nebraska Symposium on Motivation*, 19:207–283, 1971.
- Yanai Elazar, Shauli Ravfogel, Alon Jacovi, and Yoav Goldberg. Amnesic probing: Behavioral explanation with amnesic counterfactuals. *Transactions of the Association for Computational Linguistics*, 9:160–175, 2021.
- Nelson Elhage, Tristan Hume, Catherine Olsson, Nicholas Schiefer, Tom Henighan, Shauna Kravec, Zac Hatfield-Dodds, Robert Lasenby, Dawn Drain, Carol Chen, Roger Grosse, Sam McCandlish, Jared Kaplan, Dario Amodei, Martin Wattenberg, and Christopher Olah. Toy models of superposition. *Transformer Circuits Thread*, 2022.

- Dumitru Erhan, Yoshua Bengio, Aaron Courville, and Pascal Vincent. Visualizing higher-layer features of a deep network. *University of Montreal*, 1341(3):1, 2009.
- Owain Evans, Owen Cotton-Barratt, Lukas Finnveden, Adam Bales, Avital Balwit, Peter Wills, Luca Righetti, and William Saunders. Truthful ai: Developing and governing ai that does not lie, 2021.
- Ruth Fong and Andrea Vedaldi. Net2vec: Quantifying and explaining how concepts are encoded by filters in deep neural networks. In *Proceedings of the IEEE conference on computer vision and pattern recognition*, pp. 8730–8738, 2018.
- John R French, Bertram Raven, and Dorwin Cartwright. The bases of social power. *Classics of organization theory*, 7(311-320):1, 1959.
- Rohit Gandikota, Joanna Materzynska, Jaden Fiotto-Kaufman, and David Bau. Erasing concepts from diffusion models, 2023.
- Leo Gao, Jonathan Tow, Stella Biderman, Sid Black, Anthony DiPofi, Charles Foster, Laurence Golding, Jeffrey Hsu, Kyle McDonell, Niklas Muennighoff, Jason Phang, Laria Reynolds, Eric Tang, Anish Thite, Ben Wang, Kevin Wang, and Andy Zou. A framework for few-shot language model evaluation, September 2021.
- Murray Gell-Mann. *The Quark and the Jaguar: Adventures in the Simple and the Complex*. St. Martin’s Publishing Group, 1995. ISBN 9780805072532.
- Stephen Gilbert, Hugh Harvey, Tom Melvin, Erik Vollebregt, and Paul Wicks. Large language model ai chatbots require approval as medical devices. *Nature Medicine*, pp. 1–3, 2023.
- Klaus Greff, Rupesh K Srivastava, and Jürgen Schmidhuber. Highway and residual networks learn unrolled iterative estimation. *arXiv preprint arXiv:1612.07771*, 2016.
- Yoshua Bengio Guillaume Alain. Understanding intermediate layers using linear classifier probes. *ICLR 2017*, 2017.
- Tianyu Han, Lisa C. Adams, Jens-Michalis Papaioannou, Paul Grundmann, Tom Oberhauser, Alexander Löser, Daniel Truhn, and Keno K. Bressem. Medalpaca – an open-source collection of medical conversational ai models and training data, 2023.
- Eric Hartford. ehartford’s hugging face repository. Hugging Face, 2023. URL <https://huggingface.co/ehartford>. Accessed: 2023-09-28.
- Pengcheng He, Xiaodong Liu, Jianfeng Gao, and Weizhu Chen. Deberta: Decoding-enhanced BERT with disentangled attention. *CoRR*, abs/2006.03654, 2020.
- Dan Hendrycks. Natural selection favors ais over humans. *ArXiv*, 2023.
- Dan Hendrycks and Mantas Mazeika. X-risk analysis for ai research. *ArXiv*, 2022.
- Dan Hendrycks, Collin Burns, Steven Basart, Andrew Critch, Jerry Li, Dawn Song, and Jacob Steinhardt. Aligning AI with shared human values. In *International Conference on Learning Representations*, 2021a.
- Dan Hendrycks, Nicholas Carlini, John Schulman, and Jacob Steinhardt. Unsolved problems in ml safety. *arXiv preprint arXiv:2109.13916*, 2021b.
- Dan Hendrycks, Mantas Mazeika, Andy Zou, Sahil Patel, Christine Zhu, Jesus Navarro, Dawn Song, Bo Li, and Jacob Steinhardt. What would jiminy cricket do? towards agents that behave morally. *NeurIPS*, 2021c.
- Dan Hendrycks, Mantas Mazeika, and Thomas Woodside. An overview of catastrophic ai risks. *ArXiv*, 2023.
- Evan Hernandez, Belinda Z. Li, and Jacob Andreas. Inspecting and editing knowledge representations in language models, 2023.
- Geoffrey E Hinton. Distributed representations. 1984.

- Hongsheng Hu, Zoran Salcic, Lichao Sun, Gillian Dobbie, Philip S Yu, and Xuyun Zhang. Membership inference attacks on machine learning: A survey. *ACM Computing Surveys (CSUR)*, 54(11s): 1–37, 2022.
- Gwo-Jen Hwang and Ching-Yi Chang. A review of opportunities and challenges of chatbots in education. *Interactive Learning Environments*, 31(7):4099–4112, 2023.
- Sarthak Jain and Byron C. Wallace. Attention is not Explanation. In *Proceedings of the 2019 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies, Volume 1 (Long and Short Papers)*, pp. 3543–3556, Minneapolis, Minnesota, June 2019. Association for Computational Linguistics. doi: 10.18653/v1/N19-1357.
- Stanisław Jastrzebski, Devansh Arpit, Nicolas Ballas, Vikas Verma, Tong Che, and Yoshua Bengio. Residual connections encourage iterative inference. In *International Conference on Learning Representations*, 2018.
- Sayash Kapoor and Arvind Narayanan. Quantifying chatgpt’s gender bias, Apr 2023. URL [https://www.aisnakeoil.com/p/quantifying-chatgpts-gender-bias?utm\\_campaign=post&utm\\_medium=web](https://www.aisnakeoil.com/p/quantifying-chatgpts-gender-bias?utm_campaign=post&utm_medium=web).
- Tero Karras, Miika Aittala, Samuli Laine, Erik Härkönen, Janne Hellsten, Jaakko Lehtinen, and Timo Aila. Alias-free generative adversarial networks. *Advances in Neural Information Processing Systems*, 34:852–863, 2021.
- Been Kim, Martin Wattenberg, Justin Gilmer, Carrie Cai, James Wexler, Fernanda Viegas, et al. Interpretability beyond feature attribution: Quantitative testing with concept activation vectors (tcav). In *International conference on machine learning*, pp. 2668–2677. PMLR, 2018.
- Pieter-Jan Kindermans, Sara Hooker, Julius Adebayo, Maximilian Alber, Kristof T Schütt, Sven Dähne, Dumitru Erhan, and Been Kim. The (un) reliability of saliency methods. *Explainable AI: Interpreting, explaining and visualizing deep learning*, pp. 267–280, 2019.
- Matthäus Kleindessner, Michele Donini, Chris Russell, and Muhammad Bilal Zafar. Efficient fair pca for fair representation learning, 2023.
- Guokun Lai, Qizhe Xie, Hanxiao Liu, Yiming Yang, and Eduard Hovy. RACE: Large-scale ReAding comprehension dataset from examinations. In *Proceedings of the 2017 Conference on Empirical Methods in Natural Language Processing*, pp. 785–794, Copenhagen, Denmark, September 2017. Association for Computational Linguistics. doi: 10.18653/v1/D17-1082. URL <https://aclanthology.org/D17-1082>.
- Peter Lee, Sebastien Bubeck, and Joseph Petro. Benefits, limits, and risks of gpt-4 as an ai chatbot for medicine. *New England Journal of Medicine*, 388(13):1233–1239, 2023.
- Tao Lei, Regina Barzilay, and Tommi Jaakkola. Rationalizing neural predictions. *arXiv preprint arXiv:1606.04155*, 2016.
- Nancy G Leveson. *Engineering a safer world: Systems thinking applied to safety*. The MIT Press, 2016.
- Chunyuan Li, Cliff Wong, Sheng Zhang, Naoto Usuyama, Haotian Liu, Jianwei Yang, Tristan Naumann, Hoifung Poon, and Jianfeng Gao. Llava-med: Training a large language-and-vision assistant for biomedicine in one day. *arXiv preprint arXiv:2306.00890*, 2023a.
- Kenneth Li, Aspen K Hopkins, David Bau, Fernanda Viégas, Hanspeter Pfister, and Martin Wattenberg. Emergent world representations: Exploring a sequence model trained on a synthetic task. In *The Eleventh International Conference on Learning Representations*, 2023b.
- Kenneth Li, Oam Patel, Fernanda Viégas, Hanspeter Pfister, and Martin Wattenberg. Inference-time intervention: Eliciting truthful answers from a language model, 2023c.
- Qianli Liao and Tomaso Poggio. Bridging the gaps between residual learning, recurrent neural networks and visual cortex. *arXiv preprint arXiv:1604.03640*, 2016.