READING FOR MACHINE LEARNING

References

- Scott Aaronson, Quantum computing since democritus, Cambridge University Press, 2016.
- 2. Scott Aaronson, Shadow tomography of quantum states, Proceedings of the 50th annual ACM SIGACT symposium on theory of computing, 2018, pp. 325–338.
- Martín Abadi, Andy Chu, Ian Goodfellow, H Brendan McMahan, Ilya Mironov, Kunal Talwar, and Li Zhang, Deep learning with differential privacy, Proceedings of the 2016 ACM SIGSAC Conference on Computer and Communications Security, ACM, 2016, pp. 308–318.
- 4. Martín Abadi, Michael Isard, and Derek G Murray, A computational model for tensorflow: an introduction, Proceedings of the 1st ACM SIGPLAN International Workshop on Machine Learning and Programming Languages, ACM, 2017, pp. 1–7.
- 5. Vibhanshu Abhishek, Peter Fader, and Kartik Hosanagar, Media exposure through the funnel: A model of multi-stage attribution, Available at SSRN 2158421 (2012).
- V Abronin, A Naumov, D Mazur, D Bystrov, K Tsarova, Ar Melnikov, I Oseledets, S Dolgov, R Brasher, and M Perelshtein, Tqcompressor: improving tensor decomposition methods in neural networks via permutations, arXiv preprint arXiv:2401.16367 (2024).
- Sami Abu-El-Haija, Bryan Perozzi, Rami Al-Rfou, and Alexander A Alemi, Watch your step: Learning node embeddings via graph attention, Advances in Neural Information Processing Systems, 2018, pp. 9180–9190.
- 8. Dorit Aharonov and Michael Ben-Or, Fault-tolerant quantum computation with constant error rate, SIAM Journal on Computing 38 (2008), no. 4, 1207–1282.
- 9. Arif Ahmed and Ejaz Ahmed, A survey on mobile edge computing, Intelligent Systems and Control (ISCO), 2016 10th International Conference on, IEEE, 2016, pp. 1–8.
- Rami Al-Rfou, Marc Pickett, Javier Snaider, Yun-hsuan Sung, Brian Strope, and Ray Kurzweil, Conversational contextual cues: The case of personalization and history for response ranking, arXiv preprint arXiv:1606.00372 (2016).
- 11. Rahaf Aljundi, Continual learning in neural networks, arXiv preprint arXiv:1910.02718 (2019).
- 12. Rahaf Aljundi, Francesca Babiloni, Mohamed Elhoseiny, Marcus Rohrbach, and Tinne Tuytelaars, *Memory aware synapses: Learning what (not) to forget*, arXiv preprint arXiv:1711.09601 (2017).
- 13. Christopher Amato and Guy Shani, *High-level reinforcement learning in strategy games*, Proceedings of the 9th International Conference on Autonomous Agents and Multiagent Systems: volume 1-Volume 1, International Foundation for Autonomous Agents and Multiagent Systems, 2010, pp. 75–82.
- Marcin Andrychowicz, Filip Wolski, Alex Ray, Jonas Schneider, Rachel Fong, Peter Welinder, Bob McGrew, Josh Tobin, OpenAI Pieter Abbeel, and Wojciech Zaremba, Hindsight experience replay, Advances in Neural Information Processing Systems, 2017, pp. 5048–5058.

Date: April 6, 2024.

- 15. Asim Ansari, Ricardo Montoya, and Oded Netzer, *Dynamic learning in behavioral games: A hidden markov mixture of experts approach*, Quantitative Marketing and Economics **10** (2012), 475–503.
- Martin Arjovsky and Léon Bottou, Towards principled methods for training generative adversarial networks, NIPS 2016 Workshop on Adversarial Training. In review for ICLR, vol. 2016, 2017.
- 17. Martin Arjovsky, Soumith Chintala, and Léon Bottou, Wasserstein gan, arXiv preprint arXiv:1701.07875 (2017).
- Alán Aspuru-Guzik, Anthony D. Dutoi, Peter J. Love, and Martin Head-Gordon, Simulated quantum computation of molecular energies, Science 309 (2005), no. 5741, 1704–1707.
- 19. Noam Auslander, Yuri I Wolf, and Eugene V Koonin, *In silico learning of tumor evolution through mutational time series*, Proceedings of the National Academy of Sciences **116** (2019), no. 19, 9501–9510.
- Boris Babenko, Ming-Hsuan Yang, and Serge Belongie, Robust object tracking with online multiple instance learning, Pattern Analysis and Machine Intelligence, IEEE Transactions on 33 (2011), no. 8, 1619–1632.
- 21. Dzmitry Bahdanau, Kyunghyun Cho, and Yoshua Bengio, Neural machine translation by jointly learning to align and translate, arXiv preprint arXiv:1409.0473 (2014).
- Aparna Bairagi and S Kakaty, Analysis of brand loyalty using homogeneous markov model, IOSR Journal of Economics and Finance (IOSR-JEF) 7 (2016), no. 4, 6–9.
- 23. Nikita Belokonev, Artem Melnikov, Maninadh Podapaka, Karan Pinto, Markus Pflitsch, and Michael Perelshtein, *Optimization of chemical mixers design via tensor trains and quantum computing*, arXiv preprint arXiv:2304.12307 (2023).
- 24. Shay Ben-Elazar and Noam Koenigstein, A hybrid explanations framework for collaborative filtering recommender systems, (2014).
- 25. Emily M Bender, Timnit Gebru, Angelina McMillan-Major, and Shmargaret Shmitchell, On the dangers of stochastic parrots: Can language models be too big?, Proceedings of the 2021 ACM conference on fairness, accountability, and transparency, 2021, pp. 610–623.
- 26. Martin P Bendsøe and Carlos A Mota Soares, Topology design of structure, 1993.
- 27. Yoshua Bengio, Practical recommendations for gradient-based training of deep architectures, Neural Networks: Tricks of the Trade, Springer, 2012, pp. 437–478.
- 28. Yoshua Bengio, Aaron Courville, and Pierre Vincent, Representation learning: A review and new perspectives, Pattern Analysis and Machine Intelligence, IEEE Transactions on 35 (2013), no. 8, 1798–1828.
- Yoshua Bengio, Jérôme Louradour, Ronan Collobert, and Jason Weston, Curriculum learning, Proceedings of the 26th annual international conference on machine learning, ACM, 2009, pp. 41–48.
- 30. Paul Benioff, The computer as a physical system: A microscopic quantum mechanical hamiltonian model of computers as represented by turing machines, Journal of statistical physics **22** (1980), 563–591.
- 31. Charles H. Bennett and Gilles Brassard, Quantum cryptography: Public key distribution and coin tossing, Theoretical Computer Science **560** (2014), 7–11.
- 32. Charles H. Bennett, Gilles Brassard, Claude Crépeau, Richard Jozsa, Asher Peres, and William K. Wootters, Teleporting an unknown quantum state via dual classical and einstein-podolsky-rosen channels, Physical Review Letters 70 (1993), no. 13, 1895–1899.
- Charles H. Bennett and David P. DiVincenzo, Quantum information and computation, Nature 404 (2000), 247–255.
- 34. José Bento and BC EDU, Generative adversarial active learning, arXiv preprint arXiv:1702.07956 (2017).

- 35. James Bergstra and Yoshua Bengio, Random search for hyper-parameter optimization, The Journal of Machine Learning Research 13 (2012), 281–305.
- 36. Daniel J. Bernstein and Tanja Lange, *Post-quantum cryptography*, Nature **549** (2017), no. 7671, 188–194.
- 37. Ethan Bernstein and Umesh Vazirani, Quantum complexity theory, Proceedings of the twenty-fifth annual ACM symposium on Theory of computing, 1993, pp. 11–20.
- 38. A Bezruchenko, A Osicheva, A Smirnov, M Yarovikov, A Kodukhov, et al., Experimental demonstration of scalable quantum key distribution over a thousand kilometers, arXiv preprint arXiv:2306.04599 (2023).
- Jacob Biamonte, Peter Wittek, Nicola Pancotti, Patrick Rebentrost, Nathan Wiebe, and Seth Lloyd, Quantum machine learning, Nature 549 (2017), 195–202.
- Immanuel Bloch, Jean Dalibard, and Sylvain Nascimbène, Quantum simulations with ultracold quantum gases, Nature Physics 8 (2012), 267–276.
- 41. Keith Bonawitz, Vladimir Ivanov, Ben Kreuter, Antonio Marcedone, H Brendan McMahan, Sarvar Patel, Daniel Ramage, Aaron Segal, and Karn Seth, *Practical secure aggregation for privacy preserving machine learning*.
- 42. _____, Practical secure aggregation for privacy preserving machine learning., IACR Cryptology ePrint Archive 2017 (2017), 281.
- 43. Sima E Borujeni, Saideep Nannapaneni, Nam H Nguyen, Elizabeth C Behrman, and James E Steck, *Quantum circuit representation of bayesian networks*, Expert Systems with Applications **176** (2021), 114768.
- 44. Reuben Brasher, A multiresolution algorithm for high-resolution image reconstruction, Master's thesis, San Francisco State University, 2008.
- 45. _____, Asymptotics of determinants of a class of perturbed toeplitz matrices, Ph.D. thesis, University of California, Santa Cruz, 2013.
- 46. Reuben Brasher, Nat Roth, and Justin Wagle, Sometimes you want to go where everybody knows your name, arXiv preprint arXiv:1801.10182 (2018).
- 47. Reuben Brasher, Rob G Scharein, and Mariel Vazquez, New biologically motivated knot table, 2013.
- 48. Sergey Brin and Lawrence Page, The anatomy of a large-scale hypertextual web search engine, (1998).
- 49. Andrew Brock, Jeff Donahue, and Karen Simonyan, Large scale gan training for high fidelity natural image synthesis, arXiv preprint arXiv:1809.11096 (2018).
- 50. Tom Brown, Benjamin Mann, Nick Ryder, Melanie Subbiah, Jared D Kaplan, Prafulla Dhariwal, Arvind Neelakantan, Pranav Shyam, Girish Sastry, Amanda Askell, et al., Language models are few-shot learners, Advances in neural information processing systems 33 (2020), 1877–1901.
- 51. Joy Buolamwini and Timnit Gebru, Gender shades: Intersectional accuracy disparities in commercial gender classification, Conference on fairness, accountability and transparency, PMLR, 2018, pp. 77–91.
- 52. Mark Burry, Scripting cultures: Architectural design and programming, John Wiley & Sons, 2013.
- 53. Deng Cai, Yan Wang, Lemao Liu, and Shuming Shi, Recent advances in retrievalaugmented text generation, Proceedings of the 45th International ACM SIGIR Conference on Research and Development in Information Retrieval, 2022, pp. 3417–3419.
- 54. Joao Carreira, Pulkit Agrawal, Katerina Fragkiadaki, and Jitendra Malik, *Human pose estimation with iterative error feedback*, Proceedings of the IEEE conference on computer vision and pattern recognition, 2016, pp. 4733–4742.
- 55. Ricky T. Q. Chen, Yulia Rubanova, Jesse Bettencourt, and David Duvenaud, Neural ordinary differential equations, arXiv preprint arXiv:1806.07366 (2018).
- 56. Tseng-Hung Chen, Yuan-Hong Liao, Ching-Yao Chuang, Wan-Ting Hsu, Jianlong Fu, and Min Sun, Show, adapt and tell: Adversarial training of cross-domain image captioner, arXiv preprint arXiv:1705.00930 (2017).

- 57. Zheqian Chen, Ben Gao, Huimin Zhang, Zhou Zhao, Haifeng Liu, and Deng Cai, *User personalized satisfaction prediction via multiple instance deep learning*, Proceedings of the 26th International Conference on World Wide Web, International World Wide Web Conferences Steering Committee, 2017, pp. 907–915.
- 58. Zhongyang Chen, Jiadi Yu, Yanmin Zhu, Yingying Chen, and Minglu Li, D 3: Abnormal driving behaviors detection and identification using smartphone sensors, 2015 12th Annual IEEE International Conference on Sensing, Communication, and Networking (SECON), IEEE, 2015, pp. 524–532.
- 59. Heng-Tze Cheng, Levent Koc, Jeremiah Harmsen, Tal Shaked, Tushar Chandra, Hrishi Aradhye, Glen Anderson, Greg Corrado, Wei Chai, Mustafa Ispir, et al., Wide & deep learning for recommender systems, Proceedings of the 1st Workshop on Deep Learning for Recommender Systems, ACM, 2016, pp. 7–10.
- 60. Kyunghyun Cho, Bart Van Merriënboer, Caglar Gulcehre, Dzmitry Bahdanau, Fethi Bougares, Holger Schwenk, and Yoshua Bengio, Learning phrase representations using rnn encoder-decoder for statistical machine translation, arXiv preprint arXiv:1406.1078 (2014).
- 61. Sumit Chopra, Raia Hadsell, and Yann LeCun, Learning a similarity metric discriminatively, with application to face verification, Computer Vision and Pattern Recognition, 2005. CVPR 2005. IEEE Computer Society Conference on, vol. 1, IEEE, 2005, pp. 539–546.
- 62. Chi-Yin Chow and Mohemad F Mokbel, *Privacy of spatial trajectories*, Computing with spatial trajectories, Springer, 2011, pp. 109–141.
- 63. Paul Christiano, Jan Leike, Tom B Brown, Miljan Martic, Shane Legg, and Dario Amodei, *Deep reinforcement learning from human preferences*, arXiv preprint arXiv:1706.03741 (2017).
- 64. Junyoung Chung, Kyunghyun Cho, and Yoshua Bengio, A character-level decoder without explicit segmentation for neural machine translation, arXiv preprint arXiv:1603.06147 (2016).
- 65. Junyoung Chung, Caglar Gulcehre, Kyung Hyun Cho, and Yoshua Bengio, *Empirical evaluation of gated recurrent neural networks on sequence modeling*, arXiv preprint arXiv:1412.3555 (2014).
- 66. Marc-Alexandre Côté, Ákos Kádár, Xingdi Yuan, Ben Kybartas, Tavian Barnes, Emery Fine, James Moore, Matthew Hausknecht, Layla El Asri, Mahmoud Adada, et al., *Textworld: A learning environment for text-based games*, arXiv preprint arXiv:1806.11532 (2018).
- 67. Michael O Cruz, Hendrik Macedo, and Adolfo Guimaraes, *Grouping similar trajectories for carpooling purposes*, Intelligent Systems (BRACIS), 2015 Brazilian Conference on, IEEE, 2015, pp. 234–239.
- 68. Will Dabney, Mark Rowland, Marc G Bellemare, and Rémi Munos, *Distributional reinforcement learning with quantile regression*, arXiv preprint arXiv:1710.10044 (2017).
- 69. Chris Dannen, Introducing ethereum and solidity: Foundations of cryptocurrency and blockchain programming for beginners, (2017).
- 70. Tim R Davidson, Luca Falorsi, Nicola De Cao, Thomas Kipf, and Jakub M Tomczak, *Hyperspherical variational auto-encoders*, arXiv preprint arXiv:1804.00891 (2018).
- 71. Christopher M Dawson and Michael A Nielsen, *The solovay-kitaev algorithm*, arXiv preprint quant-ph/0505030 (2005).
- Jia Deng, Wei Dong, Richard Socher, Li-Jia Li, Kai Li, and Li Fei-Fei, *Imagenet: A large-scale hierarchical image database*, Computer Vision and Pattern Recognition, 2009. CVPR 2009. IEEE Conference on, IEEE, 2009, pp. 248–255.
- 73. Mark A DePristo and Robert Zubek, being-in-the-world, Proceedings of the 2001 AAAI Spring Symposium on Artificial Intelligence and Interactive Entertainment, 2001, pp. 31–34.

- 74. David Deutsch, Quantum theory, the church-turing principle and the universal quantum computer, Proceedings of the Royal Society of London. A. Mathematical and Physical Sciences **400** (1985), no. 1818, 97–117.
- David Deutsch, Quantum computational networks, Proceedings of the Royal Society of London. Series A, Mathematical and Physical Sciences 425 (1989), no. 1868, 73– 90.
- 76. David Deutsch and Richard Jozsa, *Rapid solution of problems by quantum computation*, Proceedings of the Royal Society of London. Series A: Mathematical and Physical Sciences **439** (1992), no. 1907, 553–558.
- 77. Jacob Devlin, Ming-Wei Chang, Kenton Lee, and Kristina Toutanova, Bert: Pretraining of deep bidirectional transformers for language understanding, arXiv preprint arXiv:1810.04805 (2018).
- 78. Michel H. Devoret and Robert J. Schoelkopf, Superconducting circuits for quantum information: An outlook, Science 339 (2013), no. 6124, 1169–1174.
- David P DiVincenzo, Topics in quantum computers, Mesoscopic electron transport, Springer, 1997, pp. 657–677.
- 80. Carl Doersch, *Tutorial on variational autoencoders*, arXiv preprint arXiv:1606.05908 (2016).
- 81. Sergey Dolgov, Karim Anaya-Izquierdo, Colin Fox, and Robert Scheichl, Approximation and sampling of multivariate probability distributions in the tensor train decomposition, Statistics and Computing 30 (2020), 603–625.
- 82. Pedro Domingos and Geoff Hulten, *Mining high-speed data streams*, Proceedings of the sixth ACM SIGKDD international conference on Knowledge discovery and data mining, ACM, 2000, pp. 71–80.
- 83. James Dougherty, Ron Kohavi, and Mehran Sahami, Supervised and unsupervised discretization of continuous features, Machine Learning Proceedings 1995, Elsevier, 1995, pp. 194–202.
- Madalina M Drugan, Reinforcement learning versus evolutionary computation: A survey on hybrid algorithms, Swarm and evolutionary computation 44 (2019), 228– 246.
- 85. Richard O Duda, Peter E Hart, and David G Stork, *Pattern classification*, John Wiley & Sons, 2012.
- 86. Yfke Dulek, Christian Schaffner, and Florian Speelman, Quantum homomorphic encryption for polynomial-sized circuits, Advances in Cryptology-CRYPTO 2016: 36th Annual International Cryptology Conference, Santa Barbara, CA, USA, August 14-18, 2016, Proceedings, Part III 36, Springer, 2016, pp. 3–32.
- 87. Vincent Dumoulin and Francesco Visin, A guide to convolution arithmetic for deep learning, arXiv preprint arXiv:1603.07285 (2016).
- 88. Nick Dunn, Digital fabrication in architecture, Laurence King, 2012.
- 89. Cynthia Dwork, *Differential privacy: A survey of results*, International Conference on Theory and Applications of Models of Computation, Springer, 2008, pp. 1–19.
- 90. ______, *Differential privacy*, Encyclopedia of Cryptography and Security, Springer, 2011, pp. 338–340.
- 91. Cynthia Dwork, Aaron Roth, et al., *The algorithmic foundations of differential privacy*, Foundations and Trends® in Theoretical Computer Science **9** (2014), no. 3–4, 211–407.
- 92. Haley Sweetland Edwards, Alexatakesthestand:Listendeviceshttp://time.com/4766611/ inaraiseprivacyissues. alexa-takes-the-stand-listening-devices-raise-privacy-issues/, Accessed:2018-01-22.
- 93. Albert Einstein, Boris Podolsky, and Nathan Rosen, Can quantum-mechanical description of physical reality be considered complete?, Physical Review 47 (1935), no. 10, 777–780.

- 94. Artur K. Ekert, Quantum cryptography based on bell's theorem, Physical Review Letters 67 (1991), no. 6, 661–663.
- 95. Mostafa M El-Kalliny, John H Wittig Jr, Timothy C Sheehan, Vishnu Sreekumar, Sara K Inati, and Kareem A Zaghloul, *Changing temporal context in human temporal lobe promotes memory of distinct episodes*, Nature communications **10** (2019), no. 1, 203.
- 96. Jesse Engel, Matthew Hoffman, and Adam Roberts, *Latent constraints: Learning to generate conditionally from unconditional generative models*, arXiv preprint arXiv:1711.05772 (2017).
- 97. SM Ali Eslami, Nicolas Heess, Theophane Weber, Yuval Tassa, David Szepesvari, Geoffrey E Hinton, et al., Attend, infer, repeat: Fast scene understanding with generative models, Advances in Neural Information Processing Systems, 2016, pp. 3225–3233.
- 98. Kai Fan, Allison E Aiello, and Katherine A Heller, *Bayesian models for heterogeneous personalized health data*, arXiv preprint arXiv:1509.00110 (2015).
- 99. Meng Fang, Yuan Li, and Trevor Cohn, Learning how to active learn: A deep reinforcement learning approach, arXiv preprint arXiv:1708.02383 (2017).
- 100. Edward Farhi, Jeffrey Goldstone, and Sam Gutmann, A quantum approximate optimization algorithm, arXiv:1411.4028 [quant-ph] (2014).
- Edward Farhi and Sam Gutmann, Analog analogue of a digital quantum computation, Physical Review A 57 (1998), no. 4, 2403.
- 102. Jie Feng, Yong Li, Chao Zhang, Funing Sun, Fanchao Meng, Ang Guo, and Depeng Jin, Deepmove: Predicting human mobility with attentional recurrent networks, Proceedings of the 2018 World Wide Web Conference on World Wide Web, International World Wide Web Conferences Steering Committee, 2018, pp. 1459–1468.
- 103. Richard P. Feynman, Simulating physics with computers, International Journal of Theoretical Physics 21 (1982), no. 6/7, 467–488.
- 104. Richard P Feynman, Feynman lectures on computation, CRC Press, 2018.
- Simulating physics with computers, Feynman and computation, CRC Press, 2018, pp. 133–153.
- 106. Orhan Firat, Kyunghyun Cho, and Yoshua Bengio, *Multi-way, multilingual neural machine translation with a shared attention mechanism*, arXiv preprint arXiv:1601.01073 (2016).
- 107. Meire Fortunato, Mohammad Gheshlaghi Azar, Bilal Piot, Jacob Menick, Ian Osband, Alex Graves, Vlad Mnih, Remi Munos, Demis Hassabis, Olivier Pietquin, et al., *Noisy networks for exploration*, arXiv preprint arXiv:1706.10295 (2017).
- 108. Alexandre P Francisco and Arlindo L Oliveira, On community detection in very large networks, Complex Networks: Second International Workshop, CompleNet 2010, Rio de Janeiro, Brazil, October 13-15, 2010, Revised Selected Papers, Springer, 2011, pp. 208–216.
- Robert M French, Catastrophic forgetting in connectionist networks, Trends in cognitive sciences 3 (1999), no. 4, 128–135.
- 110. Simon Frieder, Luca Pinchetti, Ryan-Rhys Griffiths, Tommaso Salvatori, Thomas Lukasiewicz, Philipp Petersen, and Julius Berner, *Mathematical capabilities of chat- qpt*, Advances in Neural Information Processing Systems **36** (2024).
- 111. Karl J Friston, Maxwell JD Ramstead, Alex B Kiefer, Alexander Tschantz, Christopher L Buckley, Mahault Albarracin, Riddhi J Pitliya, Conor Heins, Brennan Klein, Beren Millidge, et al., Designing ecosystems of intelligence from first principles, Collective Intelligence 3 (2024), no. 1, 26339137231222481.
- Nancy Fulda, Daniel Ricks, Ben Murdoch, and David Wingate, What can you do with a rock? affordance extraction via word embeddings, arXiv preprint arXiv:1703.03429 (2017).
- 113. Adam Gaier and David Ha, Weight agnostic neural networks, Advances in neural information processing systems 32 (2019).

- 114. Rinon Gal, Dana Cohen Hochberg, Amit Bermano, and Daniel Cohen-Or, Swagan: A style-based wavelet-driven generative model, ACM Transactions on Graphics (TOG) 40 (2021), no. 4, 1–11.
- 115. Yarin Gal, Riashat Islam, and Zoubin Ghahramani, Deep bayesian active learning with image data, arXiv preprint arXiv:1703.02910 (2017).
- 116. Leo Gao, Stella Biderman, Sid Black, Laurence Golding, Travis Hoppe, Charles Foster, Jason Phang, Horace He, Anish Thite, Noa Nabeshima, et al., The pile: An 800gb dataset of diverse text for language modeling, arXiv preprint arXiv:2101.00027 (2020).
- 117. Timnit Gebru, *Race and gender*, The Oxford handbook of ethics of aI (2020), 251–269.
- Felix A Gers, Nicol N Schraudolph, and Jürgen Schmidhuber, Learning precise timing with lstm recurrent networks, The Journal of Machine Learning Research 3 (2003), 115–143.
- 119. Nicholas Edward Gillian and Joseph A Paradiso, *The gesture recognition toolkit.*, Journal of Machine Learning Research **15** (2014), no. 1, 3483–3487.
- 120. Dan Gillick, Cliff Brunk, Oriol Vinyals, and Amarnag Subramanya, Multilingual language processing from bytes, arXiv preprint arXiv:1512.00103 (2015).
- 121. Jon Gillick, Adam Roberts, Jesse Engel, Douglas Eck, and David Bamman, Learning to groove with inverse sequence transformations, International Conference on Machine Learning, PMLR, 2019, pp. 2269–2279.
- 122. Aristides Gionis, Evimaria Terzi, and Panayiotis Tsaparas, *Opinion maximization in social networks*, Proceedings of the 2013 SIAM International Conference on Data Mining, SIAM, 2013, pp. 387–395.
- 123. Rafael Gómez-Bombarelli, Jennifer N Wei, David Duvenaud, José Miguel Hernández-Lobato, Benjamín Sánchez-Lengeling, Dennis Sheberla, Jorge Aguilera-Iparraguirre, Timothy D Hirzel, Ryan P Adams, and Alán Aspuru-Guzik, Automatic chemical design using a data-driven continuous representation of molecules, ACS central science 4 (2018), no. 2, 268–276.
- 124. Ian Goodfellow, Jean Pouget-Abadie, Mehdi Mirza, Bing Xu, David Warde-Farley, Sherjil Ozair, Aaron Courville, and Yoshua Bengio, *Generative adversarial nets*, Advances in Neural Information Processing Systems, 2014, pp. 2672–2680.
- 125. Benjamin Graham, Sparse arrays of signatures for online character recognition, arXiv preprint arXiv:1308.0371 (2013).
- 126. Lars Grasedyck, Daniel Kressner, and Christine Tobler, A literature survey of low-rank tensor approximation techniques, GAMM-Mitteilungen 36 (2013), no. 1, 53–78.
- 127. F Sebastian Grassia, Practical parameterization of rotations using the exponential map, Journal of graphics tools 3 (1998), no. 3, 29–48.
- 128. Alex Graves, Generating sequences with recurrent neural networks, arXiv preprint arXiv:1308.0850 (2013).
- 129. Alex Graves, Santiago Fernández, Faustino Gomez, and Jürgen Schmidhuber, Connectionist temporal classification: labelling unsegmented sequence data with recurrent neural networks, Proceedings of the 23rd international conference on Machine learning, ACM, 2006, pp. 369–376.
- 130. Alex Graves and Jürgen Schmidhuber, Framewise phoneme classification with bidirectional lstm and other neural network architectures, Neural Networks 18 (2005), no. 5, 602–610.
- 131. Karol Gregor, Ivo Danihelka, Alex Graves, and Daan Wierstra, *Draw: A recurrent neural network for image generation*, arXiv preprint arXiv:1502.04623 (2015).
- 132. Lov K. Grover, A fast quantum mechanical algorithm for database search, Proceedings, 28th Annual ACM Symposium on the Theory of Computing (1996), 212–219.
- 133. Caglar Gulcehre, Sarath Chandar, and Yoshua Bengio, Memory augmented neural networks with wormhole connections, arXiv preprint arXiv:1701.08718 (2017).

- 134. Ishaan Gulrajani, Faruk Ahmed, Martin Arjovsky, Vincent Dumoulin, and Aaron C Courville, *Improved training of wasserstein gans*, Advances in neural information processing systems **30** (2017).
- 135. Kaiyuan Guo, Lingzhi Sui, Jiantao Qiu, Song Yao, Song Han, Yu Wang, and Huazhong Yang, From model to fpga: Software-hardware co-design for efficient neural network acceleration, Hot Chips 28 Symposium (HCS), 2016 IEEE, IEEE, 2016, pp. 1–27.
- 136. John T Guthrie, Allan Wigfield, Jamie L Metsala, and Kathleen E Cox, Motivational and cognitive predictors of text comprehension and reading amount, Scientific studies of reading 3 (1999), no. 3, 231–256.
- 137. David Ha and Jürgen Schmidhuber, World models, arXiv preprint arXiv:1803.10122 (2018).
- 138. Thanh-Le Ha, Jan Niehues, and Alexander Waibel, Toward multilingual neural machine translation with universal encoder and decoder, arXiv preprint arXiv:1611.04798 (2016).
- 139. Nathan Haboury, Mo Kordzanganeh, Sebastian Schmitt, Ayush Joshi, Igor Tokarev, Lukas Abdallah, Andrii Kurkin, Basil Kyriacou, and Alexey Melnikov, A supervised hybrid quantum machine learning solution to the emergency escape routing problem, arXiv preprint arXiv:2307.15682 (2023).
- H. Häffner, C. F. Roos, and R. Blatt, Quantum computing with trapped ions, Physics Reports 469 (2008), no. 4, 155–203.
- 141. Thomas A Cano Hald, David H Junker, Mads Mårtensson, Mikael B Skov, and Dimitrios Raptis, Using smartwatch inertial sensors to recognize and distinguish between car drivers and passengers, Proceedings of the 10th International Conference on Automotive User Interfaces and Interactive Vehicular Applications, ACM, 2018, pp. 74–84.
- 142. M. Hamroun, M. S. Gouider, and L. B. Said, Lexico semantic patterns for customer intentions analysis of microblogging, 2015 11th International Conference on Semantics, Knowledge and Grids (SKG), IEEE, August 2015, pp. 222–226.
- 143. Mohamed Hamroun, Mohamed Salah Gouider, and Lamjed Ben Said, Customer intentions analysis of twitter based on semantic patterns, The 11th international conference on semantics, knowledge and grids, 2015, pp. 2–6.
- 144. Song Han, Huizi Mao, and William J Dally, Deep compression: Compressing deep neural networks with pruning, trained quantization and huffman coding, arXiv preprint arXiv:1510.00149 (2015).
- 145. Yang Hang and Simon Fong, Stream mining dynamic data by using iovfdt, Journal of Emerging Technologies in Web Intelligence 5 (2013), no. 1, 78–86.
- 146. Corentin Hardy, Erwan Le Merrer, and Bruno Sericola, *Distributed deep learning on edge-devices: feasibility via adaptive compression*, arXiv preprint arXiv:1702.04683 (2017).
- 147. Stephen Hardy, Wilko Henecka, Hamish Ivey-Law, Richard Nock, Giorgio Patrini, Guillaume Smith, and Brian Thorne, *Private federated learning on vertically partitioned data via entity resolution and additively homomorphic encryption*, arXiv preprint arXiv:1711.10677 (2017).
- 148. Serge Haroche and Jean-Michel Raimond, Exploring the quantum: Atoms, cavities, and photons, Oxford Graduate Texts (2006).
- 149. Matan Haroush, Tom Zahavy, Daniel J Mankowitz, and Shie Mannor, Learning how not to act in text-based games, (2018).
- 150. Aram W. Harrow, Avinatan Hassidim, and Seth Lloyd, *Quantum algorithm for linear systems of equations*, Physical Review Letters **103** (2009), no. 15, 150502.
- 151. Hado V Hasselt, *Double q-learning*, Advances in Neural Information Processing Systems, 2010, pp. 2613–2621.

- 152. Jeff Hawkins and Subutai Ahmad, Why neurons have thousands of synapses, a theory of sequence memory in neocortex, arXiv preprint arXiv:1511.00083 (2015).
- 153. Alex Hawkins-Hooker, Florence Depardieu, Sebastien Baur, Guillaume Couairon, Arthur Chen, and David Bikard, *Generating functional protein variants with variational autoencoders*, PLoS computational biology **17** (2021), no. 2, e1008736.
- 154. Ji He, Jianshu Chen, Xiaodong He, Jianfeng Gao, Lihong Li, Li Deng, and Mari Ostendorf, *Deep reinforcement learning with a natural language action space*, arXiv preprint arXiv:1511.04636 (2015).
- 155. Kaiming He, Xiangyu Zhang, Shaoqing Ren, and Jian Sun, Spatial pyramid pooling in deep convolutional networks for visual recognition, European Conference on Computer Vision, Springer, 2014, pp. 346–361.
- 156. ______, Deep residual learning for image recognition, Proceedings of the IEEE conference on computer vision and pattern recognition, 2016, pp. 770–778.
- 157. Xiaoxin He, Yijun Tian, Yifei Sun, Nitesh V Chawla, Thomas Laurent, Yann LeCun, Xavier Bresson, and Bryan Hooi, G-retriever: Retrieval-augmented generation for textual graph understanding and question answering, arXiv preprint arXiv:2402.07630 (2024).
- 158. Matteo Hessel, Joseph Modayil, Hado Van Hasselt, Tom Schaul, Georg Ostrovski, Will Dabney, Dan Horgan, Bilal Piot, Mohammad Azar, and David Silver, Rainbow: Combining improvements in deep reinforcement learning, arXiv preprint arXiv:1710.02298 (2017).
- 159. Todd Hester, Matej Vecerik, Olivier Pietquin, Marc Lanctot, Tom Schaul, Bilal Piot, Dan Horgan, John Quan, Andrew Sendonaris, Gabriel Dulac-Arnold, et al., *Deep q-learning from demonstrations*, arXiv preprint arXiv:1704.03732 (2017).
- 160. Holger J Hewener and Steffen H Tretbar, Mobile ultrasound plane wave beamforming on iphone or ipad using metal-based gpu processing, Physics Procedia 70 (2015), 880–883.
- Geoffrey Hinton, A practical guide to training restricted boltzmann machines, Momentum 9 (2010), no. 1, 926.
- 162. Geoffrey E Hinton, Training products of experts by minimizing contrastive divergence, Neural computation 14 (2002), no. 8, 1771–1800.
- 163. Geoffrey E Hinton, Peter Dayan, Brendan J Frey, and Radford M Neal, The" wake-sleep" algorithm for unsupervised neural networks, Science 268 (1995), no. 5214, 1158–1161.
- 164. Geoffrey E Hinton, Alex Krizhevsky, and Sida D Wang, Transforming auto-encoders, Artificial Neural Networks and Machine Learning-ICANN 2011, Springer, 2011, pp. 44–51.
- 165. Geoffrey E Hinton and Sam T Roweis, *Stochastic neighbor embedding*, Advances in neural information processing systems, 2002, pp. 833–840.
- Sepp Hochreiter and Jürgen Schmidhuber, Long short-term memory, Neural computation 9 (1997), no. 8, 1735–1780.
- 167. Zihan Hong, Ying Chen, and Hani S Mahmassani, Recognizing network trip patterns using a spatio-temporal vehicle trajectory clustering algorithm, IEEE Transactions on Intelligent Transportation Systems (2017).
- 168. Andrew G Howard, Menglong Zhu, Bo Chen, Dmitry Kalenichenko, Weijum Wang, Tobias Weyand, Marco Andreetto, and Hartwig Adam, *Mobilenets: Efficient convolutional neural networks for mobile vision applications*, arXiv preprint arXiv:1704.04861 (2017).
- 169. Cheng-Yu Hsieh, Chun-Liang Li, Chih-Kuan Yeh, Hootan Nakhost, Yasuhisa Fujii, Alexander Ratner, Ranjay Krishna, Chen-Yu Lee, and Tomas Pfister, Distilling stepby-step! outperforming larger language models with less training data and smaller model sizes, arXiv preprint arXiv:2305.02301 (2023).

- 170. Edward J Hu, Yelong Shen, Phillip Wallis, Zeyuan Allen-Zhu, Yuanzhi Li, Shean Wang, Lu Wang, and Weizhu Chen, Lora: Low-rank adaptation of large language models, arXiv preprint arXiv:2106.09685 (2021).
- 171. Itay Hubara, Matthieu Courbariaux, Daniel Soudry, Ran El-Yaniv, and Yoshua Bengio, *Binarized neural networks*, Advances in neural information processing systems, 2016, pp. 4107–4115.
- 172. ______, Quantized neural networks: Training neural networks with low precision weights and activations, arXiv preprint arXiv:1609.07061 (2016).
- 173. Geoff Hulten, Laurie Spencer, and Pedro Domingos, *Mining time-changing data streams*, Proceedings of the seventh ACM SIGKDD international conference on Knowledge discovery and data mining, ACM, 2001, pp. 97–106.
- 174. Forrest N Iandola, Song Han, Matthew W Moskewicz, Khalid Ashraf, William J Dally, and Kurt Keutzer, Squeezenet: Alexnet-level accuracy with 50x fewer parameters and i 0.5 mb model size, arXiv preprint arXiv:1602.07360 (2016).
- 175. Apple Inc., Core ml apple developer documentation, https://developer.apple.com/documentation/coreml, Accessed:2017-12-04.
- 176. ______, Higher limit for over-the-air downloads, https://developer.apple.com/news/?id=09192017b, Accessed:2018-1-04.
- 177. ______, Metal shading language specification, https://developer.apple.com/metal/Metal-Shading-Language-Specification.pdf, Accessed:2017-12-04.
- 178. Michael Isard and Andrew Blake, Condensation—conditional density propagation for visual tracking, International journal of computer vision 29 (1998), no. 1, 5–28.
- 179. Jaromír Janisch, Let's make a dqn: Double learning and prioritized experience replay, https://jaromiru.com/2016/11/07/ lets-make-a-dqn-double-learning-and-prioritized-experience-replay/, Accessed:2018-05-28.
- 180. Albert Q Jiang, Alexandre Sablayrolles, Arthur Mensch, Chris Bamford, Devendra Singh Chaplot, Diego de las Casas, Florian Bressand, Gianna Lengyel, Guillaume Lample, Lucile Saulnier, et al., *Mistral 7b*, arXiv preprint arXiv:2310.06825 (2023).
- 181. Xiang Jiang, Erico N de Souza, Ahmad Pesaranghader, Baifan Hu, Daniel L Silver, and Stan Matwin, *Trajectorynet: An embedded gps trajectory representation for point-based classification using recurrent neural networks*, arXiv preprint arXiv:1705.02636 (2017).
- 182. Haifeng Jin, Qingquan Song, and Xia Hu, Efficient neural architecture search with network morphism, arXiv preprint arXiv:1806.10282 (2018).
- 183. Derick A Johnson and Mohan M Trivedi, *Driving style recognition using a smart-phone as a sensor platform*, 2011 14th International IEEE Conference on Intelligent Transportation Systems (ITSC), IEEE, 2011, pp. 1609–1615.
- 184. Justin Johnson, Bharath Hariharan, Laurens van der Maaten, Li Fei-Fei, C Lawrence Zitnick, and Ross Girshick, Clevr: A diagnostic dataset for compositional language and elementary visual reasoning, arXiv preprint arXiv:1612.06890 (2016).
- 185. Mark W. Johnson, Mohammad H. S. Amin, Suzanne Gildert, Trevor Lanting, Firas Hamze, Neil Dickson, R. Harris, Andrew J. Berkley, Jan Johansson, Paul Bunyk, Emil M. Chapple, Chris Enderud, Jeremy P. Hilton, Kamran Karimi, Eric Ladizinsky, Nicholas Ladizinsky, Travis Oh, Isil T. Perminov, Christopher Rich, Mark C. Thom, E. Tolkacheva, Colin J. S. Truncik, Sergey Uchaikin, Jason Wang, Bo Wilson, and Geordie Rose, Quantum annealing with manufactured spins, Nature 473 (2011), no. 7346, 194–198.
- 186. Melvin Johnson, Mike Schuster, Quoc V Le, Maxim Krikun, Yonghui Wu, Zhifeng Chen, Nikhil Thorat, Fernanda Viégas, Martin Wattenberg, Greg Corrado, et al., Google's multilingual neural machine translation system: enabling zero-shot translation, arXiv preprint arXiv:1611.04558 (2016).

- N. Cody Jones, A quest for a quantum neural network, Quantum Science and Technology 4 (2019), no. 2, 025007.
- 188. Armand Joulin, Edouard Grave, Piotr Bojanowski, and Tomas Mikolov, *Bag of tricks for efficient text classification*, arXiv preprint arXiv:1607.01759 (2016).
- 189. John Jumper, Richard Evans, Alexander Pritzel, Tim Green, Michael Figurnov, Olaf Ronneberger, Kathryn Tunyasuvunakool, Russ Bates, Augustin Žídek, Anna Potapenko, et al., *Highly accurate protein structure prediction with alphafold*, Nature **596** (2021), no. 7873, 583–589.
- 190. Hang-Bong Kang, Various approaches for driver and driving behavior monitoring: a review, Proceedings of the IEEE International Conference on Computer Vision Workshops, 2013, pp. 616–623.
- 191. Antonios Karatzoglou, Adrian Jablonski, and Michael Beigl, A seq2seq learning approach for modeling semantic trajectories and predicting the next location, Proceedings of the 26th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems, ACM, 2018, pp. 528–531.
- 192. Andrej Karpathy and Li Fei-Fei, *Deep visual-semantic alignments for generating image descriptions*, Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition, 2015, pp. 3128–3137.
- 193. Tero Karras, Samuli Laine, and Timo Aila, A style-based generator architecture for generative adversarial networks, Proceedings of the IEEE/CVF conference on computer vision and pattern recognition, 2019, pp. 4401–4410.
- 194. Tero Karras, Samuli Laine, Miika Aittala, Janne Hellsten, Jaakko Lehtinen, and Timo Aila, *Analyzing and improving the image quality of stylegan*, Proceedings of the IEEE/CVF conference on computer vision and pattern recognition, 2020, pp. 8110–8119.
- Ronald Kemker, Angelina Abitino, Marc McClure, and Christopher Kanan, Measuring catastrophic forgetting in neural networks, arXiv preprint arXiv:1708.02072 (2017).
- 196. Tom Kenter, Llion Jones, and Daniel Hewlett, *Byte-level machine reading across morphologically varied languages*, Proceedings of the Thirty-Second AAAI Conference on Artificial Intelligence (AAAI-18), 2018.
- 197. Raghunandan H Keshavan, Andrea Montanari, and Sewoong Oh, Matrix completion from a few entries, IEEE Transactions on Information Theory 56 (2010), no. 6, 2980–2998.
- 198. ______, Matrix completion from noisy entries, Journal of Machine Learning Research 11 (2010), no. Jul, 2057–2078.
- 199. Diederik P Kingma and Jimmy Ba Adam, A method for stochastic optimization. 2014, arXiv preprint arXiv:1412.6980.
- 200. Diederik P Kingma and Max Welling, Auto-encoding variational bayes, arXiv preprint arXiv:1312.6114 (2013).
- 201. Diederik P Kingma, Max Welling, et al., An introduction to variational autoencoders, Foundations and Trends® in Machine Learning 12 (2019), no. 4, 307–392.
- 202. James Kirkpatrick, Razvan Pascanu, Neil Rabinowitz, Joel Veness, Guillaume Desjardins, Andrei A Rusu, Kieran Milan, John Quan, Tiago Ramalho, Agnieszka Grabska-Barwinska, et al., Overcoming catastrophic forgetting in neural networks, Proceedings of the National Academy of Sciences (2017), 201611835.
- 203. NS Kirsanov, NR Kenbaev, AB Sagingalieva, DA Kronberg, VM Vinokur, and GB Lesovik, Long-distance quantum key distribution based on the physical loss control, arXiv preprint arXiv:2105.00035 (2021).
- 204. A. Yu Kitaev, Fault-tolerant quantum computation by anyons, Annals of Physics 303 (2003), no. 1, 2–30.

- 205. Guillaume Klein, Yoon Kim, Yuntian Deng, Jean Senellart, and Alexander M Rush, Opennmt: Open-source toolkit for neural machine translation, arXiv preprint arXiv:1701.02810 (2017).
- 206. E. Knill, R. Laflamme, and G. J. Milburn, A scheme for efficient quantum computation with linear optics, Nature 409 (2001), 46–52.
- Gregory Koch, Siamese neural networks for one-shot image recognition, Ph.D. thesis, University of Toronto, 2015.
- 208. Aleksei D Kodukhov, Valeria A Pastushenko, Nikita S Kirsanov, Dmitry A Kronberg, Markus Pflitsch, and Valerii M Vinokur, Boosting quantum key distribution via the end-to-end loss control, Cryptography 7 (2023), no. 3, 38.
- Jakub Konecný, Stochastic, distributed and federated optimization for machine learning, arXiv preprint arXiv:1707.01155 (2017).
- 210. Jakub Konečný, H Brendan McMahan, Daniel Ramage, and Peter Richtárik, Federated optimization: distributed machine learning for on-device intelligence, arXiv preprint arXiv:1610.02527 (2016).
- 211. Jakub Konečný, H Brendan McMahan, Felix X Yu, Peter Richtárik, Ananda Theertha Suresh, and Dave Bacon, Federated learning: Strategies for improving communication efficiency, arXiv preprint arXiv:1610.05492 (2016).
- 212. Jakub Konečný and Peter Richtárik, Randomized distributed mean estimation: Accuracy vs communication, arXiv preprint arXiv:1611.07555 (2016).
- 213. Mo Kordzanganeh, Daria Kosichkina, and Alexey Melnikov, Parallel hybrid networks: an interplay between quantum and classical neural networks, Intelligent Computing 2 (2023), 0028.
- 214. Mohammad Kordzanganeh, Markus Buchberger, Basil Kyriacou, Maxim Povolotskii, Wilhelm Fischer, Andrii Kurkin, Wilfrid Somogyi, Asel Sagingalieva, Markus Pflitsch, and Alexey Melnikov, *Benchmarking simulated and physical quantum processing units using quantum and hybrid algorithms*, Advanced Quantum Technologies 6 (2023), no. 8, 2300043.
- 215. Egor Kornev, Sergey Dolgov, Karan Pinto, Markus Pflitsch, Michael Perelshtein, and Artem Melnikov, Numerical solution of the incompressible navier-stokes equations for chemical mixers via quantum-inspired tensor train finite element method, arXiv preprint arXiv:2305.10784 (2023).
- 216. Bart Kosko, *Bidirectional associative memories*, Systems, Man and Cybernetics, IEEE Transactions on **18** (1988), no. 1, 49–60.
- 217. Bartosz Kostka, Jaroslaw Kwiecieli, Jakub Kowalski, and Pawel Rychlikowski, Text-based adventures of the golovin ai agent, Computational Intelligence and Games (CIG), 2017 IEEE Conference on, IEEE, 2017, pp. 181–188.
- 218. Tim Kraska, Alex Beutel, Ed H Chi, Jeffrey Dean, and Neoklis Polyzotis, *The case for learned index structures*, arXiv preprint arXiv:1712.01208 (2017).
- 219. Alex Krizhevsky and Geoffrey Hinton, Learning multiple layers of features from tiny images, Computer Science Department, University of Toronto, Tech. Rep (2009).
- 220. Alex Krizhevsky, Geoffrey E Hinton, et al., Factored 3-way restricted boltzmann machines for modeling natural images, International Conference on Artificial Intelligence and Statistics, 2010, pp. 621–628.
- 221. Alex Krizhevsky, Ilya Sutskever, and Geoffrey E Hinton, *Imagenet classification with deep convolutional neural networks.*, NIPS, vol. 1, 2012, p. 4.
- 222. Ankit Kumar, Ozan Irsoy, Jonathan Su, James Bradbury, Robert English, Brian Pierce, Peter Ondruska, Ishaan Gulrajani, and Richard Socher, *Ask me anything: Dynamic memory networks for natural language processing*, arXiv preprint arXiv:1506.07285 (2015).
- 223. Andrii Kurkin, Jonas Hegemann, Mo Kordzanganeh, and Alexey Melnikov, Fore-casting the steam mass flow in a powerplant using the parallel hybrid network, arXiv preprint arXiv:2307.09483 (2023).

- 224. Matt J Kusner, Brooks Paige, and José Miguel Hernández-Lobato, *Grammar variational autoencoder*, arXiv preprint arXiv:1703.01925 (2017).
- 225. Elmar H Langholz and Reuben Brasher, Real-time on-device nod and shake recognition, arXiv preprint arXiv:1806.04776 (2018).
- 226. Amy N Langville and Carl D Meyer, *Deeper inside pagerank*, Internet Mathematics 1 (2004), no. 3, 335–380.
- Quoc V Le and Tomas Mikolov, Distributed representations of sentences and documents, arXiv preprint arXiv:1405.4053 (2014).
- 228. Erik Learned-Miller, Gary B Huang, Aruni RoyChowdhury, Haoxiang Li, and Gang Hua, *Labeled faces in the wild: A survey*, Advances in Face Detection and Facial Image Analysis, Springer, 2016, pp. 189–248.
- 229. Yann LeCun and Fu Jie Huang, Loss functions for discriminative training of energy-based models., AIStats, 2005.
- 230. Donghyun Lee, Dingheng Wang, Yukuan Yang, Lei Deng, Guangshe Zhao, and Guoqi Li, Qttnet: Quantized tensor train neural networks for 3d object and video recognition, Neural Networks 141 (2021), 420–432.
- Jason Lee, Kyunghyun Cho, and Thomas Hofmann, Fully character-level neural machine translation without explicit segmentation, arXiv preprint arXiv:1610.03017 (2016).
- 232. Elad Levintal, Yonatan Ganot, Gail Taylor, Peter Freer-Smith, Kosana Suvocarev, and Helen E Dahlke, An underground, wireless, open-source, low-cost system for monitoring oxygen, temperature, and soil moisture, Soil 8 (2022), no. 1, 85–97.
- 233. Patrick Lewis, Ethan Perez, Aleksandra Piktus, Fabio Petroni, Vladimir Karpukhin, Naman Goyal, Heinrich Küttler, Mike Lewis, Wen-tau Yih, Tim Rocktäschel, et al., Retrieval-augmented generation for knowledge-intensive nlp tasks, Advances in Neural Information Processing Systems 33 (2020), 9459–9474.
- 234. Jiwei Li, Will Monroe, Alan Ritter, Michel Galley, Jianfeng Gao, and Dan Jurafsky, Deep reinforcement learning for dialogue generation, arXiv preprint arXiv:1606.01541 (2016).
- 235. Rui Li, Michael TM Emmerich, Jeroen Eggermont, Thomas Bäck, Martin Schütz, Jouke Dijkstra, and Johan HC Reiber, Mixed integer evolution strategies for parameter optimization, Evolutionary computation 21 (2013), no. 1, 29–64.
- 236. Zhe Li, Xiaoyu Wang, Xutao Lv, and Tianbao Yang, Sep-nets: Small and effective pattern networks, arXiv preprint arXiv:1706.03912 (2017).
- 237. Timothy P Lillicrap, Jonathan J Hunt, Alexander Pritzel, Nicolas Heess, Tom Erez, Yuval Tassa, David Silver, and Daan Wierstra, Continuous control with deep reinforcement learning, arXiv preprint arXiv:1509.02971 (2015).
- 238. Henry W Lin and Max Tegmark, Critical behavior from deep dynamics: A hidden dimension in natural language, arXiv preprint arXiv:1606.06737 (2016).
- 239. Tsung-Yi Lin, Michael Maire, Serge Belongie, James Hays, Pietro Perona, Deva Ramanan, Piotr Dollár, and C Lawrence Zitnick, *Microsoft coco: Common objects in context*, European conference on computer vision, Springer, 2014, pp. 740–755.
- 240. Michael L Littman, Friend-or-foe q-learning in general-sum games, ICML, vol. 1, 2001, pp. 322–328.
- 241. An Liu, Kai Zhengy, Lu Liz, Guanfeng Liu, Lei Zhao, and Xiaofang Zhou, Efficient secure similarity computation on encrypted trajectory data, Data Engineering (ICDE), 2015 IEEE 31st International Conference on, IEEE, 2015, pp. 66–77.
- 242. Luyang Liu, Cagdas Karatas, Hongyu Li, Sheng Tan, Marco Gruteser, Jie Yang, Yingying Chen, and Richard P Martin, Toward detection of unsafe driving with wearables, Proceedings of the 2015 workshop on Wearable Systems and Applications, ACM, 2015, pp. 27–32.

- 243. Wei Liu, Dragomir Anguelov, Dumitru Erhan, Christian Szegedy, Scott Reed, Cheng-Yang Fu, and Alexander C Berg, Ssd: Single shot multibox detector, European Conference on Computer Vision, Springer, 2016, pp. 21–37.
- 244. Xingchao Liu, Xiwen Zhang, Jianzhu Ma, Jian Peng, and Qiang Liu, *Instaflow: One step is enough for high-quality diffusion-based text-to-image generation*, 2023.
- Seth Lloyd, A potentially realizable quantum computer, Science 261 (1993), no. 5128, 1569–1571.
- 246. Seth Lloyd, Universal quantum simulators, Science 273 (1996), no. 5278, 1073–1078.
- 247. Jonathan Long, Evan Shelhamer, and Trevor Darrell, Fully convolutional networks for semantic segmentation, Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition, 2015, pp. 3431–3440.
- 248. Shayne Longpre, Le Hou, Tu Vu, Albert Webson, Hyung Won Chung, Yi Tay, Denny Zhou, Quoc V Le, Barret Zoph, Jason Wei, et al., The flan collection: Designing data and methods for effective instruction tuning, arXiv preprint arXiv:2301.13688 (2023).
- 249. Daniel Loss and David P. DiVincenzo, Quantum computation with quantum dots, Physical Review A 57 (1998), no. 1, 120–126.
- 250. Ryan Lowe, Yi Wu, Aviv Tamar, Jean Harb, Pieter Abbeel, and Igor Mordatch, Multi-agent actor-critic for mixed cooperative-competitive environments, arXiv preprint arXiv:1706.02275 (2017).
- Tyler Lu, Dale Schuurmans, and Craig Boutilier, Non-delusional q-learning and value-iteration, Advances in Neural Information Processing Systems, 2018, pp. 9970– 9980.
- 252. Khoa Luu, Chenchen Zhu, Chandrasekhar Bhagavatula, T Hoang Ngan Le, and Marios Savvides, A deep learning approach to joint face detection and segmentation, Advances in Face Detection and Facial Image Analysis, Springer, 2016, pp. 1–12.
- David JC MacKay, Information theory, inference and learning algorithms, Cambridge university press, 2003.
- 254. Naveen Sai Madiraju, Seid M Sadat, Dimitry Fisher, and Homa Karimabadi, Deep temporal clustering: Fully unsupervised learning of time-domain features, arXiv preprint arXiv:1802.01059 (2018).
- Mohammad Malekzadeh, Richard G Clegg, Andrea Cavallaro, and Hamed Haddadi, Mobile sensor data anonymization, arXiv preprint arXiv:1810.11546 (2018).
- 256. Bernd Malle, Nicola Giuliani, Peter Kieseberg, and Andreas Holzinger, *The more the merrier-federated learning from local sphere recommendations*, International Cross-Domain Conference for Machine Learning and Knowledge Extraction, Springer, 2017, pp. 367–373.
- 257. Fragkiskos D Malliaros and Michalis Vazirgiannis, Clustering and community detection in directed networks: A survey, Physics reports 533 (2013), no. 4, 95–142.
- 258. Junhua Mao, Wei Xu, Yi Yang, Jiang Wang, and Alan Yuille, Deep captioning with multimodal recurrent neural networks (m-rnn), arXiv preprint arXiv:1412.6632 (2014).
- 259. Manu Mathew, Kumar Desappan, Pramod Kumar Swami, and Soyeb Nagori, Sparse, quantized, full frame cnn for low power embedded devices, Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition Workshops, 2017, pp. 11–19.
- Bryan McCann, James Bradbury, Caiming Xiong, and Richard Socher, Learned in translation: Contextualized word vectors, arXiv preprint arXiv:1708.00107 (2017).
- Daniel McDu, Mary Czerwinski, and Nick Craswell, Misc: A data set of informationseeking conversations.
- 262. H Brendan McMahan, Eider Moore, Daniel Ramage, Seth Hampson, et al., Communication-efficient learning of deep networks from decentralized data, arXiv preprint arXiv:1602.05629 (2016).

- 263. H Brendan McMahan, Eider Moore, Daniel Ramage, and Blaise Aguera y Arcas, Federated learning of deep networks using model averaging, (2016).
- 264. Artem A Melnikov, Alena A Termanova, Sergey V Dolgov, Florian Neukart, and Michael Perelshtein, Quantum state preparation using tensor networks, Quantum Science and Technology (2023).
- Tomas Mikolov, Kai Chen, Greg Corrado, and Jeffrey Dean, Efficient estimation of word representations in vector space, arXiv preprint arXiv:1301.3781 (2013).
- 266. Tomas Mikolov, Ilya Sutskever, Kai Chen, Greg S Corrado, and Jeff Dean, *Distributed representations of words and phrases and their compositionality*, Advances in neural information processing systems, 2013, pp. 3111–3119.
- 267. Volodymyr Mnih, Adria Puigdomenech Badia, Mehdi Mirza, Alex Graves, Timothy Lillicrap, Tim Harley, David Silver, and Koray Kavukcuoglu, Asynchronous methods for deep reinforcement learning, International Conference on Machine Learning, 2016, pp. 1928–1937.
- 268. Volodymyr Mnih, Koray Kavukcuoglu, David Silver, Alex Graves, Ioannis Antonoglou, Daan Wierstra, and Martin Riedmiller, Playing atari with deep reinforcement learning, arXiv preprint arXiv:1312.5602 (2013).
- 269. Volodymyr Mnih, Koray Kavukcuoglu, David Silver, Andrei A Rusu, Joel Veness, Marc G Bellemare, Alex Graves, Martin Riedmiller, Andreas K Fidjeland, Georg Ostrovski, et al., Human-level control through deep reinforcement learning, Nature 518 (2015), no. 7540, 529–533.
- 270. Yujian Mo, Yan Wu, Xinneng Yang, Feilin Liu, and Yujun Liao, Review the state-of-the-art technologies of semantic segmentation based on deep learning, Neurocomputing 493 (2022), 626–646.
- 271. Igor Mordatch and Pieter Abbeel, Emergence of grounded compositional language in multi-agent populations, arXiv preprint arXiv:1703.04908 (2017).
- 272. Jonas Mueller and Aditya Thyagarajan, Siamese recurrent architectures for learning sentence similarity., AAAI, 2016, pp. 2786–2792.
- 273. Meinard Müller, *Dynamic time warping*, Information retrieval for music and motion (2007), 69–84.
- 274. Tsendsuren Munkhdalai and Hong Yu, *Meta networks*, arXiv preprint arXiv:1703.00837 (2017).
- 275. Rithesh Murthy, Shelby Heinecke, Juan Carlos Niebles, Zhiwei Liu, Le Xue, Weiran Yao, Yihao Feng, Zeyuan Chen, Akash Gokul, Devansh Arpit, et al., Rex: Rapid exploration and exploitation for ai agents, arXiv preprint arXiv:2307.08962 (2023).
- 276. Satoshi Nakamoto, Bitcoin: A peer-to-peer electronic cash system, 2008.
- 277. Karthik Narasimhan, Tejas Kulkarni, and Regina Barzilay, Language understanding for text-based games using deep reinforcement learning, arXiv preprint arXiv:1506.08941 (2015).
- Oded Netzer, Peter Ebbes, and Tammo HA Bijmolt, Hidden markov models in marketing, Advanced methods for modeling markets (2017), 405–449.
- 279. Florian Neukart, Anders Indset, Markus Pflitsch, and Michael Perelshtein, Do we live in a [quantum] simulation? constraints, observations, and experiments on the simulation hypothesis, arXiv preprint arXiv:2212.04921 (2022).
- 280. Florian Neukart, David Von Dollen, Christian Seidel, and Gabriele Compostella, Quantum-enhanced reinforcement learning for finite-episode games with discrete state spaces, arXiv preprint arXiv:1708.09354 (2017).
- 281. BBC News, Google apologises for photos app's racist blunder, http://www.bbc.com/news/technology-33347866, Accessed:2018-01-22.
- 282. Maximillian Nickel and Douwe Kiela, Poincaré embeddings for learning hierarchical representations, Advances in neural information processing systems, 2017, pp. 6338– 6347.

- 283. Alexander G Nikolaev, Raihan Razib, and Ashwin Kucheriya, On efficient use of entropy centrality for social network analysis and community detection, Social Networks 40 (2015), 154–162.
- 284. MJA Oele, Identifying purchase intentions by extracting information from tweets, (2017).
- 285. State of California Department of Justice Office of the Attorney General, *Privacy laws* state of california department of justice office of the attorney general, https://oag.ca.gov/privacy/privacy-laws, Accessed:2018-01-22.
- 286. Frédérique Oggier, Silivanxay Phetsouvanh, and Anwitaman Datta, *Biva: Bitcoin network visualization & analysis*, 2018 IEEE International Conference on Data Mining Workshops (ICDMW), IEEE, 2018, pp. 1469–1474.
- Francisco Javier Ordóñez and Daniel Roggen, Deep convolutional and lstm recurrent neural networks for multimodal wearable activity recognition, Sensors 16 (2016), no. 1, 115.
- Ivan V Oseledets, Constructive representation of functions in low-rank tensor formats, Constructive Approximation 37 (2013), 1–18.
- 289. Seyed Ali Ossia, Ali Shahin Shamsabadi, Ali Taheri, Hamid R Rabiee, Nic Lane, and Hamed Haddadi, *A hybrid deep learning architecture for privacy-preserving mobile analytics*, arXiv preprint arXiv:1703.02952 (2017).
- 290. Nicolas Padilla, Ricardo Montoya, and Oded Netzer, Heterogeneity in hmms: allowing for heterogeneity in the number of states, Tech. report, Working paper, Columbia University, 2017.
- 291. AI Pakhomchik, S Yudin, MR Perelshtein, A Alekseyenko, and S Yarkoni, Solving workflow scheduling problems with qubo modeling, arXiv preprint arXiv:2205.04844 (2022).
- 292. Mark Palatucci, Dean Pomerleau, Geoffrey E Hinton, and Tom M Mitchell, Zeroshot learning with semantic output codes, Advances in neural information processing systems, 2009, pp. 1410–1418.
- 293. Juan Pardo, Francisco Zamora-Martínez, and Paloma Botella-Rocamora, Online learning algorithm for time series forecasting suitable for low cost wireless sensor networks nodes, Sensors 15 (2015), no. 4, 9277–9304.
- 294. Cesc Chunseong Park, Byeongchang Kim, and Gunhee Kim, Attend to you: Personalized image captioning with context sequence memory networks, arXiv preprint arXiv:1704.06485 (2017).
- 295. Dae Hoon Park, ChengXiang Zhai, and Lifan Guo, Speclda: Modeling product reviews and specifications to generate augmented specifications, Proceedings of the 2015 SIAM International Conference on Data Mining, SIAM, 2015, pp. 837–845.
- 296. Jinhee Park, Hyerin Kim, Jaekwang Kim, and Mookyung Cheon, A practical application of generative adversarial networks for rna-seq analysis to predict the molecular progress of alzheimer's disease, PLoS computational biology 16 (2020), no. 7, e1008099.
- 297. The European Parliament and the Council Of The European Union, Regulation (eu) 2016/679 of the european parliament and of the council of 27 april 2016, http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX: 32016R0679&from=en, 2016, Accessed:2018-01-23.
- 298. Md Rizwan Parvez, Wasi Uddin Ahmad, Saikat Chakraborty, Baishakhi Ray, and Kai-Wei Chang, *Retrieval augmented code generation and summarization*, arXiv preprint arXiv:2108.11601 (2021).
- 299. Jeffrey Pennington, Richard Socher, and Christopher Manning, Glove: Global vectors for word representation, Proceedings of the 2014 conference on empirical methods in natural language processing (EMNLP), 2014, pp. 1532–1543.

- 300. Juan Antonio Pérez-Ortiz, Felix A Gers, Douglas Eck, and Jürgen Schmidhuber, Kalman filters improve 1stm network performance in problems unsolvable by traditional recurrent nets, Neural Networks 16 (2003), no. 2, 241–250.
- 301. Bryan Perozzi, Rami Al-Rfou, and Steven Skiena, Deepwalk: Online learning of social representations, Proceedings of the 20th ACM SIGKDD international conference on Knowledge discovery and data mining, 2014, pp. 701–710.
- 302. Laurent Perrinet, Manuel Samuelides, and Simon Thorpe, Sparse spike coding in an asynchronous feed-forward multi-layer neural network using matching pursuit, Neurocomputing 57 (2004), 125–134.
- 303. Alberto Peruzzo, Jarrod McClean, Peter Shadbolt, Man-Hong Yung, Xiao-Qi Zhou, Peter J. Love, Alán Aspuru-Guzik, and Jeremy L. O'Brien, A variational eigenvalue solver on a photonic quantum processor, Nature Communications 5 (2014), 4213.
- 304. Thomas Pouplin, Hao Sun, Samuel Holt, and Mihaela Van der Schaar, Retrieval-augmented thought process as sequential decision making, arXiv preprint arXiv:2402.07812 (2024).
- 305. Daniel Povey, Xiaohui Zhang, and Sanjeev Khudanpur, Parallel training of deep neural networks with natural gradient and parameter averaging, arXiv preprint (2014).
- 306. Rohit Prabhavalkar, Ouais Alsharif, Antoine Bruguier, and Lan McGraw, On the compression of recurrent neural networks with an application to lvcsr acoustic modeling for embedded speech recognition, Acoustics, Speech and Signal Processing (ICASSP), 2016 IEEE International Conference on, IEEE, 2016, pp. 5970–5974.
- 307. John Preskill, Fault-tolerant quantum computation, arXiv:quant-ph/9712048 (1998).
- 308. _____, Quantum computing in the nisq era and beyond, Quantum 2 (2018), 79.
- 309. _____, Quantum computing in the nisq era and beyond, Quantum 2 (2018), 79.
- 310. Reid Pryzant, Dan Iter, Jerry Li, Yin Tat Lee, Chenguang Zhu, and Michael Zeng, Automatic prompt optimization with" gradient descent" and beam search, arXiv preprint arXiv:2305.03495 (2023).
- 311. Alec Radford, Luke Metz, and Soumith Chintala, Unsupervised representation learning with deep convolutional generative adversarial networks, arXiv preprint arXiv:1511.06434 (2015).
- 312. Alec Radford, Jeffrey Wu, Rewon Child, David Luan, Dario Amodei, Ilya Sutskever, et al., *Language models are unsupervised multitask learners*, OpenAI blog **1** (2019), no. 8, 9.
- Muchamad Rahmadhony, Sigit Wasista, and Elly Purwantini, Validity currency detector with optical sensor using backpropagation, Electronics Symposium (IES), 2015
 International, IEEE, 2015, pp. 257–262.
- 314. Jonathan Raiman, Stanford sentiment treebank loader in python, https://github.com/JonathanRaiman/pytreebank, Accessed:2018-01-05.
- 315. Inioluwa Deborah Raji, Timnit Gebru, Margaret Mitchell, Joy Buolamwini, Joonseok Lee, and Emily Denton, Saving face: Investigating the ethical concerns of facial recognition auditing, Proceedings of the AAAI/ACM Conference on AI, Ethics, and Society, 2020, pp. 145–151.
- 316. Prajit Ramachandran, Tom Le Paine, Pooya Khorrami, Mohammad Babaeizadeh, Shiyu Chang, Yang Zhang, Mark A Hasegawa-Johnson, Roy H Campbell, and Thomas S Huang, Fast generation for convolutional autoregressive models, arXiv preprint arXiv:1704.06001 (2017).
- Marc'Aurelio Ranzato, Sumit Chopra, Michael Auli, and Wojciech Zaremba, Sequence level training with recurrent neural networks, arXiv preprint arXiv:1511.06732 (2015).
- 318. David Raposo, Adam Santoro, David Barrett, Razvan Pascanu, Timothy Lillicrap, and Peter Battaglia, *Discovering objects and their relations from entangled scene representations*, arXiv preprint arXiv:1702.05068 (2017).

- 319. Antti Rasmus, Mathias Berglund, Mikko Honkala, Harri Valpola, and Tapani Raiko, Semi-supervised learning with ladder networks, Advances in Neural Information Processing Systems, 2015, pp. 3546–3554.
- 320. Mohammad Rastegari, Vicente Ordonez, Joseph Redmon, and Ali Farhadi, *Xnornet: Imagenet classification using binary convolutional neural networks*, European Conference on Computer Vision, Springer, 2016, pp. 525–542.
- 321. Alexander J Ratner, Christopher M De Sa, Sen Wu, Daniel Selsam, and Christopher Ré, *Data programming: Creating large training sets, quickly*, Advances in neural information processing systems, 2016, pp. 3567–3575.
- 322. Sachin Ravi and Hugo Larochelle, Optimization as a model for few-shot learning, (2016).
- 323. Sujith Ravi, Projectionnet: Learning efficient on-device deep networks using neural projections, arXiv preprint arXiv:1708.00630 (2017).
- 324. Joseph Redmon and Ali Farhadi, *Yolo9000: Better, faster, stronger*, arXiv preprint arXiv:1612.08242 (2016).
- 325. Shaoqing Ren, Kaiming He, Ross Girshick, and Jian Sun, Faster r-cnn: Towards realtime object detection with region proposal networks, Advances in neural information processing systems, 2015, pp. 91–99.
- 326. Jorge-L Reyes-Ortiz, Luca Oneto, Albert Samà, Xavier Parra, and Davide Anguita, Transition-aware human activity recognition using smartphones, Neurocomputing 171 (2016), 754–767.
- 327. Danilo Jimenez Rezende, Shakir Mohamed, Ivo Danihelka, Karol Gregor, and Daan Wierstra, *One-shot generalization in deep generative models*, arXiv preprint arXiv:1603.05106 (2016).
- 328. Eojin Rho, Minjoon Kim, Seunghee H Cho, Bongjae Choi, Hyungjoon Park, Hanhwi Jang, Yeon Sik Jung, and Sungho Jo, Separation-free bacterial identification in arbitrary media via deep neural network-based sers analysis, Biosensors and Bioelectronics 202 (2022), 113991.
- 329. Minsoo Rhu, Natalia Gimelshein, Jason Clemons, Arslan Zulfiqar, and Stephen W Keckler, vdnn: Virtualized deep neural networks for scalable, memory-efficient neural network design, Microarchitecture (MICRO), 2016 49th Annual IEEE/ACM International Symposium on, IEEE, 2016, pp. 1–13.
- 330. Martin Riedmiller, Roland Hafner, Thomas Lampe, Michael Neunert, Jonas Degrave, Tom Van de Wiele, Volodymyr Mnih, Nicolas Heess, and Jost Tobias Springenberg, *Learning by playing-solving sparse reward tasks from scratch*, arXiv preprint arXiv:1802.10567 (2018).
- 331. Adam Roberts, Jesse Engel, Colin Raffel, Curtis Hawthorne, and Douglas Eck, A hierarchical latent vector model for learning long-term structure in music, International conference on machine learning, PMLR, 2018, pp. 4364–4373.
- 332. Robin Rombach, Andreas Blattmann, Dominik Lorenz, Patrick Esser, and Björn Ommer, *High-resolution image synthesis with latent diffusion models*, Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2022, pp. 10684–10695.
- 333. Charissa Ann Ronao and Sung-Bae Cho, Human activity recognition with smartphone sensors using deep learning neural networks, Expert systems with applications 59 (2016), 235–244.
- 334. Warrick Roseboom, Zafeirios Fountas, Kyriacos Nikiforou, David Bhowmik, Murray Shanahan, and Anil K Seth, Activity in perceptual classification networks as a basis for human subjective time perception, Nature communications 10 (2019), no. 1, 267.
- 335. David Ruelle, Post-human mathematics, arXiv preprint arXiv:1308.4678 (2013).

- 336. Nataniel Ruiz, Yuanzhen Li, Varun Jampani, Yael Pritch, Michael Rubinstein, and Kfir Aberman, *Dreambooth: Fine tuning text-to-image diffusion models for subject-driven generation*, Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2023, pp. 22500–22510.
- 337. Olga Russakovsky, Jia Deng, Hao Su, Jonathan Krause, Sanjeev Satheesh, Sean Ma, Zhiheng Huang, Andrej Karpathy, Aditya Khosla, Michael Bernstein, et al., *Imagenet large scale visual recognition challenge*, International Journal of Computer Vision 115 (2015), no. 3, 211–252.
- 338. Theo Ryffel, Andrew Trask, Morten Dahl, Bobby Wagner, Jason Mancuso, Daniel Rueckert, and Jonathan Passerat-Palmbach, A generic framework for privacy preserving deep learning, arXiv preprint arXiv:1811.04017 (2018).
- 339. Ruslan Salakhutdinov, Andriy Mnih, and Geoffrey Hinton, *Restricted boltzmann machines for collaborative filtering*, Proceedings of the 24th international conference on Machine learning, ACM, 2007, pp. 791–798.
- 340. Tim Salimans, Ian Goodfellow, Wojciech Zaremba, Vicki Cheung, Alec Radford, and Xi Chen, *Improved techniques for training gans*, Advances in Neural Information Processing Systems, 2016, pp. 2234–2242.
- 341. Giancarlo Salton, Robert J Ross, and John Kelleher, *Idiom token classification using sentential distributed semantics*, (2016).
- 342. Maria Laura Santoni, Elena Raponi, Renato De Leone, and Carola Doerr, Comparison of high-dimensional bayesian optimization algorithms on bbob, arXiv preprint arXiv:2303.00890 (2023).
- 343. Adam Santoro, Sergey Bartunov, Matthew Botvinick, Daan Wierstra, and Timothy Lillicrap, *Meta-learning with memory-augmented neural networks*, International conference on machine learning, 2016, pp. 1842–1850.
- 344. _____, One-shot learning with memory-augmented neural networks, arXiv preprint arXiv:1605.06065 (2016).
- 345. Tom Schaul, Daniel Horgan, Karol Gregor, and David Silver, *Universal value function approximators*, International Conference on Machine Learning, 2015, pp. 1312–1320.
- 346. Tom Schaul, John Quan, Ioannis Antonoglou, and David Silver, *Prioritized experience replay*, arXiv preprint arXiv:1511.05952 (2015).
- 347. Maria Schuld and Nathan Killoran, Quantum machine learning in feature hilbert spaces, Physical Review Letters 122 (2019), no. 4, 040504.
- 348. Catherine D Schuman, Thomas E Potok, Robert M Patton, J Douglas Birdwell, Mark E Dean, Garrett S Rose, and James S Plank, A survey of neuromorphic computing and neural networks in hardware, arXiv preprint arXiv:1705.06963 (2017).
- 349. Alexandr Sedykh, Maninadh Podapaka, Asel Sagingalieva, Nikita Smertyak, Karan Pinto, Markus Pflitsch, and Alexey Melnikov, Quantum physics-informed neural networks for simulating computational fluid dynamics in complex shapes, arXiv preprint arXiv:2304.11247 (2023).
- 350. Abigail See, Peter J Liu, and Christopher D Manning, Get to the point: Summarization with pointer-generator networks, arXiv preprint arXiv:1704.04368 (2017).
- 351. Stanislau Semeniuta, Aliaksei Severyn, and Erhardt Barth, A hybrid convolutional variational autoencoder for text generation, arXiv preprint arXiv:1702.02390 (2017).
- 352. Arsenii Senokosov, Alexandr Sedykh, Asel Sagingalieva, Basil Kyriacou, and Alexey Melnikov, *Quantum machine learning for image classification*, Machine Learning: Science and Technology (2023).
- 353. Minjoon Seo, Aniruddha Kembhavi, Ali Farhadi, and Hannaneh Hajishirzi, Bidirectional attention flow for machine comprehension, arXiv preprint arXiv:1611.01603 (2016).
- 354. Pierre Sermanet, Corey Lynch, Jasmine Hsu, and Sergey Levine, *Time-contrastive networks: Self-supervised learning from multi-view observation*, arXiv preprint arXiv:1704.06888 (2017).

- 355. Burr Settles and Mark Craven, An analysis of active learning strategies for sequence labeling tasks, Proceedings of the conference on empirical methods in natural language processing, Association for Computational Linguistics, 2008, pp. 1070–1079.
- 356. Burr Settles, Mark Craven, and Lewis Friedland, *Active learning with real annotation costs*, Proceedings of the NIPS workshop on cost-sensitive learning, Vancouver, Canada, 2008, pp. 1–10.
- 357. Mohammad Javad Shafiee, Francis Li, Brendan Chwyl, and Alexander Wong, Squishednets: Squishing squeezenet further for edge device scenarios via deep evolutionary synthesis, arXiv preprint arXiv:1711.07459 (2017).
- 358. Yanyao Shen, Hyokun Yun, Zachary C Lipton, Yakov Kronrod, and Animashree Anandkumar, *Deep active learning for named entity recognition*, arXiv preprint arXiv:1707.05928 (2017).
- 359. Jiaxin Shi, Jianfei Chen, Jun Zhu, Shengyang Sun, Yucen Luo, Yihong Gu, and Yuhao Zhou, *Zhusuan: A library for bayesian deep learning*, arXiv preprint arXiv:1709.05870 (2017).
- 360. Yaoyun Shi, Both toffoli and controlled-not need little help to do universal quantum computation, arXiv preprint quant-ph/0205115 (2002).
- 361. Reza Shokri and Vitaly Shmatikov, *Privacy-preserving deep learning*, Proceedings of the 22nd ACM SIGSAC conference on computer and communications security, ACM, 2015, pp. 1310–1321.
- 362. Peter W Shor, Algorithms for quantum computation: discrete logarithms and factoring, Proceedings 35th annual symposium on foundations of computer science, Ieee, 1994, pp. 124–134.
- Peter W. Shor, Scheme for reducing decoherence in quantum computer memory, Physical Review A 52 (1995), no. 4, R2493–R2496.
- 364. ______, Polynomial-time algorithms for prime factorization and discrete logarithms on a quantum computer, SIAM Journal on Computing 26 (1997), no. 5, 1484–1509.
- 365. Christian Siagian and Laurent Itti, Rapid biologically-inspired scene classification using features shared with visual attention, Pattern Analysis and Machine Intelligence, IEEE Transactions on 29 (2007), no. 2, 300–312.
- 366. Aditya Siddhant and Zachary C Lipton, Deep bayesian active learning for natural language processing: Results of a large-scale empirical study, arXiv preprint arXiv:1808.05697 (2018).
- 367. David Silver, Thomas Hubert, Julian Schrittwieser, Ioannis Antonoglou, Matthew Lai, Arthur Guez, Marc Lanctot, Laurent Sifre, Dharshan Kumaran, Thore Graepel, et al., Mastering chess and shogi by self-play with a general reinforcement learning algorithm, arXiv preprint arXiv:1712.01815 (2017).
- 368. Daniel R Simon, On the power of quantum computation, SIAM journal on computing **26** (1997), no. 5, 1474–1483.
- 369. Ian Simon, Adam Roberts, Colin Raffel, Jesse Engel, Curtis Hawthorne, and Douglas Eck, *Learning a latent space of multitrack measures*, arXiv preprint arXiv:1806.00195 (2018).
- 370. Karen Simonyan and Andrew Zisserman, Very deep convolutional networks for large-scale image recognition, arXiv preprint arXiv:1409.1556 (2014).
- 371. Virginia Smith, Chao-Kai Chiang, Maziar Sanjabi, and Ameet Talwalkar, Federated multi-task learning, arXiv preprint arXiv:1705.10467 (2017).
- 372. Jake Snell, Kevin Swersky, and Richard S Zemel, *Prototypical networks for few-shot learning*, arXiv preprint arXiv:1703.05175 (2017).
- 373. Richard Socher, Milind Ganjoo, Christopher D Manning, and Andrew Ng, Zero-shot learning through cross-modal transfer, Advances in neural information processing systems, 2013, pp. 935–943.

- 374. Richard Socher, Alex Perelygin, Jean Wu, Jason Chuang, Christopher D Manning, Andrew Ng, and Christopher Potts, *Recursive deep models for semantic compositionality over a sentiment treebank*, Proceedings of the 2013 conference on empirical methods in natural language processing, 2013, pp. 1631–1642.
- 375. Neil Spiller et al., Digital architecture now: A global survey of emerging talent, Thames & Hudson, 2008.
- 376. Nitish Srivastava, Geoffrey E Hinton, Alex Krizhevsky, Ilya Sutskever, and Ruslan Salakhutdinov, *Dropout: a simple way to prevent neural networks from overfitting.*, Journal of machine learning research **15** (2014), no. 1, 1929–1958.
- 377. Robert Stolz, Masaaki Yoshida, Reuben Brasher, Michelle Flanner, Kai Ishihara, David J Sherratt, Koya Shimokawa, and Mariel Vazquez, *Pathways of dna unlinking:* A story of stepwise simplification, Scientific reports **7** (2017), no. 1, 12420.
- 378. Simeng Sun, Yang Liu, Shuohang Wang, Chenguang Zhu, and Mohit Iyyer, Pearl: Prompting large language models to plan and execute actions over long documents, arXiv preprint arXiv:2305.14564 (2023).
- 379. Ilya Sutskever and Geoffrey E Hinton, Learning multilevel distributed representations for high-dimensional sequences, International Conference on Artificial Intelligence and Statistics, 2007, pp. 548–555.
- 380. Ilya Sutskever, Geoffrey E Hinton, and Graham W Taylor, *The recurrent temporal* restricted boltzmann machine, Advances in Neural Information Processing Systems, 2009, pp. 1601–1608.
- 381. Richard S Sutton, Learning to predict by the methods of temporal differences, Machine learning 3 (1988), no. 1, 9–44.
- 382. Richard S Sutton, Andrew G Barto, Francis Bach, et al., Reinforcement learning:
 An introduction, MIT press, 1998.
- 383. Christian Szegedy, Wojciech Zaremba, Ilya Sutskever, Joan Bruna, Dumitru Erhan, Ian Goodfellow, and Rob Fergus, *Intriguing properties of neural networks*, arXiv preprint arXiv:1312.6199 (2013).
- 384. István Szita, Reinforcement learning in games, Reinforcement Learning, Springer, 2012, pp. 539–577.
- 385. Ewin Tang, A quantum-inspired classical algorithm for recommendation systems, arXiv preprint arXiv:1807.04271 (2018).
- 386. Jie Tang, Dawei Sun, Shaoshan Liu, and Jean-Luc Gaudiot, *Enabling deep learning on iot devices*, Computer **50** (2017), no. 10, 92–96.
- 387. Graham W Taylor, Geoffrey E Hinton, and Sam T Roweis, *Modeling human motion using binary latent variables*, Advances in neural information processing systems, 2006, pp. 1345–1352.
- 388. A Termanova, Ar Melnikov, E Mamenchikov, N Belokonev, S Dolgov, A Berezutskii, R Ellerbrock, C Mansell, and M Perelshtein, *Tensor quantum programming*, arXiv preprint arXiv:2403.13486 (2024).
- 389. Kostas Terzidis, Algorithmic architecture, Routledge, 2006.
- 390. Vikrant Singh Tomar and Richard C Rose, Efficient manifold learning for speech recognition using locality sensitive hashing, Acoustics, Speech and Signal Processing (ICASSP), 2013 IEEE International Conference on, IEEE, 2013, pp. 6995–6999.
- 391. Hugo Touvron, Thibaut Lavril, Gautier Izacard, Xavier Martinet, Marie-Anne Lachaux, Timothée Lacroix, Baptiste Rozière, Naman Goyal, Eric Hambro, Faisal Azhar, et al., *Llama: Open and efficient foundation language models*, arXiv preprint arXiv:2302.13971 (2023).
- 392. Subarna Tripathi, Gokce Dane, Byeongkeun Kang, Vasudev Bhaskaran, and Truong Nguyen, *Lcdet: Low-complexity fully-convolutional neural networks for object detection in embedded systems*, arXiv preprint arXiv:1705.05922 (2017).

- 393. Albert Tsao, Jørgen Sugar, Li Lu, Cheng Wang, James J Knierim, May-Britt Moser, and Edvard I Moser, Integrating time from experience in the lateral entorhinal cortex, Nature 561 (2018), no. 7721, 57–62.
- 394. Kathryn Tunyasuvunakool, Jonas Adler, Zachary Wu, Tim Green, Michal Zielinski, Augustin Žídek, Alex Bridgland, Andrew Cowie, Clemens Meyer, Agata Laydon, et al., *Highly accurate protein structure prediction for the human proteome*, Nature **596** (2021), no. 7873, 590–596.
- 395. Alan M Turing, Computing machinery and intelligence, Mind (1950), 433-460.
- 396. Amund Tveit, Torbjørn Morland, and Thomas Brox Røst, Deeplearningkit-an gpu optimized deep learning framework for apple's ios, os x and twos developed in metal and swift, arXiv preprint arXiv:1605.04614 (2016).
- 397. Laurens Van der Maaten and Geoffrey Hinton, Visualizing data using t-sne, Journal of Machine Learning Research 9 (2008), no. 2579-2605, 85.
- 398. Hado Van Hasselt, Arthur Guez, and David Silver, Deep reinforcement learning with double q-learning., AAAI, 2016, pp. 2094–2100.
- 399. Bas van Stein, Hao Wang, and Thomas Bäck, Automatic configuration of deep neural networks with parallel efficient global optimization, 2019 International Joint Conference on Neural Networks (IJCNN), IEEE, 2019, pp. 1–7.
- 400. Lieven MK Vandersypen, Matthias Steffen, Gregory Breyta, Costantino S Yannoni, Mark H Sherwood, and Isaac L Chuang, Experimental realization of shor's quantum factoring algorithm using nuclear magnetic resonance, Nature 414 (2001), no. 6866, 883–887.
- 401. Ashish Vaswani, Noam Shazeer, Niki Parmar, Jakob Uszkoreit, Llion Jones, Aidan N Gomez, Lukasz Kaiser, and Illia Polosukhin, *Attention is all you need*, arXiv preprint arXiv:1706.03762 (2017).
- Claire Vernade, Olivier Cappé, and Vianney Perchet, Stochastic bandit models for delayed conversions, arXiv preprint arXiv:1706.09186 (2017).
- 403. Margarita Veshchezerova, Mikhail Somov, David Bertsche, Steffen Limmer, Sebastian Schmitt, Michael Perelshtein, and Ayush Joshi Tripathi, A hybrid quantum-classical approach to the electric mobility problem, 2023 IEEE International Conference on Quantum Computing and Engineering (QCE), vol. 1, IEEE, 2023, pp. 636–641.
- 404. Valerii M Vinokur, Nikita S Kirsanov, Gordey B Lesovik, Pavel Sekatski, Alexander Kolybelnikov, Valeria Pastushenko, and Alexey Kodukhov, Quantum key distribution device and method suitable for establishing a global quantum key distribution network, January 25 2024, US Patent App. 18/352,845.
- 405. David Von Dollen, Investigating reinforcement learning agents for continuous state space environments, arXiv preprint arXiv:1708.02378 (2017).
- 406. Ulrike Von Luxburg, A tutorial on spectral clustering, Statistics and computing 17 (2007), 395–416.
- Lev Igorevich Vysotsky, Tt ranks of approximate tensorizations of some smooth functions, Computational Mathematics and Mathematical Physics 61 (2021), no. 5, 750– 760.
- 408. Justin Wagle, *Nervous*, https://github.com/horixon/nervous, Accessed:2017-12-04.
- 409. Daochen Wang, Xuchen You, Tongyang Li, and Andrew M Childs, *Quantum exploration algorithms for multi-armed bandits*, Proceedings of the AAAI Conference on Artificial Intelligence, vol. 35, 2021, pp. 10102–10110.
- 410. Feng Wang, Alberto Eljarrat, Johannes Müller, Trond R Henninen, Rolf Erni, and Christoph T Koch, *Multi-resolution convolutional neural networks for inverse problems*, Scientific reports **10** (2020), no. 1, 1–11.
- 411. Hao Wang, Bas van Stein, Michael Emmerich, and Thomas Back, A new acquisition function for bayesian optimization based on the moment-generating function, 2017

- IEEE International Conference on Systems, Man, and Cybernetics (SMC), IEEE, 2017, pp. 507–512.
- 412. Yizhong Wang, Yeganeh Kordi, Swaroop Mishra, Alisa Liu, Noah A Smith, Daniel Khashabi, and Hannaneh Hajishirzi, Self-instruct: Aligning language model with self generated instructions, arXiv preprint arXiv:2212.10560 (2022).
- 413. Ziyu Wang, Tom Schaul, Matteo Hessel, Hado Van Hasselt, Marc Lanctot, and Nando De Freitas, *Dueling network architectures for deep reinforcement learning*, arXiv preprint arXiv:1511.06581 (2015).
- 414. Jules White, Chris Thompson, Hamilton Turner, Brian Dougherty, and Douglas C Schmidt, Wreckwatch: Automatic traffic accident detection and notification with smartphones, Mobile Networks and Applications 16 (2011), no. 3, 285–303.
- 415. Jason D Williams and Geoffrey Zweig, End-to-end lstm-based dialog control optimized with supervised and reinforcement learning, arXiv preprint arXiv:1606.01269 (2016).
- 416. Gavin Wood, Ethereum: A secure decentralised generalised transaction ledger, Ethereum Project Yellow Paper 151 (2014).
- 417. William K. Wootters and Wojciech H. Zurek, A single quantum cannot be cloned, Nature 299 (1982), 802–803.
- 418. Qizhe Xie, Minh-Thang Luong, Eduard Hovy, and Quoc V Le, Self-training with noisy student improves imagenet classification, Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2020, pp. 10687–10698.
- 419. Caiming Xiong, Victor Zhong, and Richard Socher, Dynamic coattention networks for question answering, arXiv preprint arXiv:1611.01604 (2016).
- 420. Huijuan Xu and Kate Saenko, Ask, attend and answer: Exploring question-guided spatial attention for visual question answering, arXiv preprint arXiv:1511.05234 (2015).
- 421. Weidi Xu, Haoze Sun, Chao Deng, and Ying Tan, Variational autoencoder for semisupervised text classification., AAAI, 2017, pp. 3358–3364.
- 422. Dongdong Yang, Kevin Dyer, and Senzhang Wang, Interpretable deep learning model for online multi-touch attribution, arXiv preprint arXiv:2004.00384 (2020).
- 423. Jiaolong Yang, Peiran Ren, Dong Chen, Fang Wen, Hongdong Li, and Gang Hua, Neural aggregation network for video face recognition, arXiv preprint arXiv:1603.05474 (2016).
- 424. Dragomir Yankov, Pavel Berkhin, and Lihong Li, Evaluation of explore-exploit policies in multi-result ranking systems, arXiv preprint arXiv:1504.07662 (2015).
- 425. Raymond Yeh, Chen Chen, Teck Yian Lim, Mark Hasegawa-Johnson, and Minh N Do, Semantic image inpainting with perceptual and contextual losses, arXiv preprint arXiv:1607.07539 (2016).
- 426. Weizhe Yuan, Richard Yuanzhe Pang, Kyunghyun Cho, Xian Li, Sainbayar Sukhbaatar, Jing Xu, and Jason Weston, Self-rewarding language models, 2024.
- 427. Wojciech Zaremba, Ilya Sutskever, and Oriol Vinyals, Recurrent neural network regularization, arXiv preprint arXiv:1409.2329 (2014).
- 428. Matthew D Zeiler, Dilip Krishnan, Graham W Taylor, and Rob Fergus, *Deconvolutional networks*, Computer Vision and Pattern Recognition (CVPR), 2010 IEEE Conference on, IEEE, 2010, pp. 2528–2535.
- 429. Chenshuang Zhang, Chaoning Zhang, Sheng Zheng, Mengchun Zhang, Maryam Qamar, Sung-Ho Bae, and In So Kweon, A survey on audio diffusion models: Text to speech synthesis and enhancement in generative ai, arXiv preprint arXiv:2303.13336 2 (2023).
- 430. Jie Zhang et al., Recurrent neuro-fuzzy networks for nonlinear process modeling, Neural Networks, IEEE Transactions on 10 (1999), no. 2, 313–326.
- 431. Lymin Zhang and Maneesh Agrawala, Adding conditional control to text-to-image diffusion models, arXiv preprint arXiv:2302.05543 (2023).

- 432. Xiang Zhang and Yann LeCun, *Text understanding from scratch*, arXiv preprint arXiv:1502.01710 (2015).
- 433. Yi Zhang and Jonathan Koren, Efficient bayesian hierarchical user modeling for recommendation system, Proceedings of the 30th annual international ACM SIGIR conference on Research and development in information retrieval, ACM, 2007, pp. 47–54.
- 434. Zhuosheng Zhang, Aston Zhang, Mu Li, Hai Zhao, George Karypis, and Alex Smola, *Multimodal chain-of-thought reasoning in language models*, arXiv preprint arXiv:2302.00923 (2023).
- Junbo Zhao, Michael Mathieu, Ross Goroshin, and Yann Lecun, Stacked what-where auto-encoders, arXiv preprint arXiv:1506.02351 (2015).
- 436. Junbo Zhao, Michael Mathieu, and Yann LeCun, Energy-based generative adversarial network, arXiv preprint arXiv:1609.03126 (2016).
- 437. Wayne Xin Zhao, Sui Li, Yulan He, Edward Y Chang, Ji-Rong Wen, and Xiaoming Li, Connecting social media to e-commerce: Cold-start product recommendation using microblogging information, IEEE Transactions on Knowledge and Data Engineering 28 (2015), no. 5, 1147–1159.
- 438. Zhan Zhao, Haris N Koutsopoulos, and Jinhua Zhao, Discovering latent activity patterns from human mobility, (2018).
- 439. Vincent W Zheng, Yu Zheng, Xing Xie, and Qiang Yang, Collaborative location and activity recommendations with gps history data, Proceedings of the 19th international conference on World wide web, ACM, 2010, pp. 1029–1038.
- 440. Yu Zheng, Trajectory data mining: an overview, ACM Transactions on Intelligent Systems and Technology (TIST) 6 (2015), no. 3, 29.
- 441. Yu Zheng, Lizhu Zhang, Xing Xie, and Wei-Ying Ma, *Mining interesting locations and travel sequences from gps trajectories*, Proceedings of the 18th international conference on World wide web, ACM, 2009, pp. 791–800.
- 442. Zhong Zheng, Wei Huang, Songnian Li, and Yongnian Zeng, Forest fire spread simulating model using cellular automaton with extreme learning machine, Ecological Modelling 348 (2017), 33–43.
- 443. Hattie Zhou, Arwen Bradley, Etai Littwin, Noam Razin, Omid Saremi, Josh Susskind, Samy Bengio, and Preetum Nakkiran, What algorithms can transformers learn? a study in length generalization, 2023.
- 444. Chenzhuo Zhu, Song Han, Huizi Mao, and William J Dally, *Trained ternary quantization*, arXiv preprint arXiv:1612.01064 (2016).
- 445. Yuke Zhu, Roozbeh Mottaghi, Eric Kolve, Joseph J Lim, Abhinav Gupta, Li Fei-Fei, and Ali Farhadi, *Target-driven visual navigation in indoor scenes using deep reinforcement learning*, arXiv preprint arXiv:1609.05143 (2016).
- 446. Philip Zigoris and Yi Zhang, Bayesian adaptive user profiling with explicit & implicit feedback, Proceedings of the 15th ACM international conference on Information and knowledge management, ACM, 2006, pp. 397–404.