International Journal of Computer Vision 81(2):191–204. https://doi.org/10.1007/s11263-008-0161-5
21. Hong RC, Liu DQ, Mo XY et al (2022) Learning to compose and reason with language tree structures for visual grounding. IEEE Transactions on Pattern Analysis and Machine Intelligence 44(2):684–696. https://doi.org/10.1109/Tpami.2019.2911066
22. Chen L, Cui J, Tang X et al (2022) Rlpath: a knowledge graph link prediction method using reinforcement learning based attentive relation path searching and representation learning. Applied Intelligence 52(4):4715–4726. https://doi.org/10.1007/s10489-021-02672-0
23. Lee Y, Shin J, Kim Y (2021) Simultaneous neural machine translation with a reinforced attention mechanism. Etri Journal 43(5):775–786. https://doi.org/10.4218/etrij.2020-0358
24. Xu C, Li Q, Zhang D et al (2020) Deep successor feature learning for text generation. Neurocomputing 396:495–500. https://doi.org/10.1016/j.neucom.2018.11.116
25. Afshar M, Phillips A, Karnik N et al (2019) Natural language processing and machine learning to identify alcohol misuse from the electronic health record in trauma patients: development and internal validation. Journal of the American Medical Informatics Association 26(3):254–261. https://doi.org/10.1093/jamia/ocy166
26. Prollochs N, Feuerriegel S, Lutz B et al (2020) Negation scope detection for sentiment analysis: A reinforcement learning framework for replicating human interpretations. Information Sciences 536:205–221. https://doi.org/10.1016/j.ins.2020.05.022
27. Li GH, Dong M, Ming LF et al (2022) Deep reinforcement learning based ensemble model for rumor tracking. Information Systems 103(101):772. https://doi.org/10.1016/j.is.2021.101772
28. Swetha NG, Karpagam GR (2022) Reinforcement learning infused intelligent framework for semantic web service composition rl infused intelligent framework for swsc. Applied Intelligence 52(2):1979–2000. https://doi.org/10.1007/s10489-021-02351-0
29. Xiao Y, Nazarian S, Bogdan P (2021) Plasticity-on-chip design: Exploiting self-similarity for data communications. IEEE Transactions on Computers 70(6):950–962. https://doi.org/10.1109/Tc.2021.3071507
30. Lee J, Koh H, Choe HJ (2021) Learning to trade in financial time series using high-frequency through wavelet transformation and deep reinforcement learning. Applied Intelligence 51(8):6202–6223. https://doi.org/10.1007/s10489-021-02218-4
31. Licks GP, Couto JC, Miehe PD et al (2020) Smartix: A database indexing agent based on reinforcement learning. Applied Intelligence 50(8):2575–2588. https://doi.org/10.1007/s10489-020-01674-8
32. Ishita SZ, Ahmed CF, Leung CK (2022) New approaches for mining regular high utility sequential patterns. Applied Intelligence 52(4):3781–3806. https://doi.org/10.1007/s10489-021-02536-7
33. Xu JY, Yao L, Li L et al (2020) Argumentation based reinforcement learning for meta-knowledge extraction. Information Sciences 506:258–272. https://doi.org/10.1016/j.ins.2019.07.094
34. Li T, Wang ZJ, Yang GY et al (2021) Semi-selfish mining based on hidden markov decision process. International Journal of Intelligent Systems 36(7):3596–3612. https://doi.org/10.1002/int.22428
35. Karimi M, Hasanzadeh A, Shen Y (2020) Network-principled deep generative models for designing drug combinations as graph sets. Bioinformatics 36:445–454. https://doi.org/10.1093/bioinformatics/btaa317
36. Chong B, Yang YG, Wang ZL et al (2021) Reinforcement learning to boost molecular docking upon protein conformational ensemble. Physical Chemistry Chemical Physics 23(11):6800–6806. https://doi.org/10.1039/d0cp06378a
37. Tan RK, Liu Y, Xie L (2022) Reinforcement learning for systems pharmacology-oriented and personalized drug design. Expert Opinion on Drug Discovery 17(8):849–863. https://doi.org/10.1080/17460441.2022.2072288
38. Paiva Tomaz LB, Silva Julia RM, Duarte VA (2018) A multiagent player system composed by expert agents in specific game stages operating in high performance environment. Applied Intelligence 48(1):1–22. https://doi.org/10.1007/s10489-017-0952-x
39. Li SX, Li O, Liu GY, et al (2021) Trajectory based prioritized double experience buffer for sample-efficient policy optimization. IEEE Access 9:101,424–101,432. https://doi.org/10.1109/ACCESS.2021.3097357
40. Xu R, Lieberherr K (2020) Learning self-play agents for combinatorial optimization problems. The Knowledge Engineering Review 35:11. https://doi.org/10.1017/S026988892000020X
41. Liu J, Chen ZX, Dong WH, et al (2019) Microwave Integrated Circuits Design with Relational Induction Neural Network. arXiv e-prints arXiv:1901.02069. https://arxiv.org/abs/1901.02069
42. Clemente AV (2017) Decoupling deep learning and reinforcement learning for stable and efficient deep policy gradient algorithms. Master's thesis, Norwegian University of Science and Technology Trondheim
43. Sinaga KP, Yang MS (2020) Unsupervised k-means clustering algorithm. IEEE Access 8:80,716–80,727. 10.1109/ACCESS.2020.2988796
44. Zheng Y, Li X, Xu L (2020) Balance control for the first-order inverted pendulum based on the advantage actor-critic algorithm. International Journal of Control Automation and Systems 18(12):3093–3100. https://doi.org/10.1007/s12555-019-0278-z
45. Arulkumaran K, Deisenroth MP, Brundage M et al (2017) Deep reinforcement learning a brief survey. IEEE Signal Processing Magazine 34(6):26–38. https://doi.org/10.1109/MSP.2017.2743240
46. Yang L, Zhu L, Choi WW et al (2018) Wideband balanced-to-unbalanced bandpass filters synthetically designed with chebyshev filtering response. IEEE Transactions on Microwave Theory and Techniques 66(10):4528–4539. https://doi.org/10.1109/tmtt.2018.2860949
47. Shuang W, Yan L, Jiu-sheng L (2017) Compact dual-band bandpass filter using a stepped impedance resonator for wlan/wimax application. In: 2017 7th IEEE International Symposium on Microwave, Antenna, Propagation, and EMC Technologies (MAPE), pp 180–183, https://doi.org/10.1109/MAPE.2017.8250830
48. Liu XB, Yang SH, Wang HQ, et al (2022) New lithium bismuth phosphate ceramic: crystal structure, microstructure, microwave dielectric properties and co-firing compatibility with aluminum electrode. Journal of Materials Science-Materials in Electronics 33(13):10,114–10,120. https://doi.org/10.1007/s10854-022-08001-6
49. Krishna VN, Padmasine KG (2023) A review on microwave band pass filters: Materials and design optimization techniques for wireless communication systems. Materials Science in Semiconductor Processing 154. https://doi.org/10.1016/j.mssp.2022.107181

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.