

REFERENCE LIST

- [1] S. E. Razavi *et al.*, “Impact of distributed generation on protection and voltage regulation of distribution systems: A review,” *Renew. Sustain. Energy Rev.*, vol. 105, no. January, pp. 157–167, 2019, doi: 10.1016/j.rser.2019.01.050.
- [2] S. Kakran and S. Chanana, “Smart operations of smart grids integrated with distributed generation: A review,” *Renew. Sustain. Energy Rev.*, vol. 81, no. December 2016, pp. 524–535, 2018, doi: 10.1016/j.rser.2017.07.045.
- [3] S. Guo, Q. Liu, J. Sun, and H. Jin, “A review on the utilization of hybrid renewable energy,” *Renew. Sustain. Energy Rev.*, vol. 91, no. December 2017, pp. 1121–1147, 2018, doi: 10.1016/j.rser.2018.04.105.
- [4] A. M. Eltamaly, Y. Sayed Mohamed, A. H. M. El-Sayed, M. A. Mohamed, and A. Nasr A. Elghaffar, “Power Quality and Reliability Considerations of Photovoltaic Distributed Generation,” *Technol. Econ. Smart Grids Sustain. Energy*, vol. 5, no. 1, 2020, doi: 10.1007/s40866-020-00096-2.
- [5] O. Krishan and S. Suhag, “An updated review of energy storage systems: Classification and applications in distributed generation power systems incorporating renewable energy resources,” *Int. J. Energy Res.*, vol. 43, no. 12, pp. 6171–6210, 2019, doi: 10.1002/er.4285.
- [6] J. Y. Lee, R. Verayiah, K. H. Ong, A. K. Ramasamy, and M. B. Marsadek, “Distributed generation: A review on current energy status, grid-interconnected pq issues, and implementation constraints of dg in malaysia,” *Energies*, vol. 13, no. 24, 2020, doi: 10.3390/en13246479.
- [7] B. Singh, A. Prasad, A. Pratap, and S. P. Singh, “A critical Review on distributed generation planning in Distribution Networks,” *Int. Conf. Electr. Electron. Eng. ICE3 2020*, pp. 7–12, 2020, doi: 10.1109/ICE348803.2020.9122905.
- [8] C. Dang, X. Wang, C. Shao, and X. Wang, “Distributed generation planning for diversified participants in demand response to promote renewable energy integration,” *J. Mod. Power Syst. Clean Energy*, vol. 7, no. 6, pp. 1559–1572, 2019, doi: 10.1007/s40565-019-0506-9.
- [9] A. Al Hadi, C. A. S. Silva, E. Hossain, and R. Chaloo, “Algorithm for demand response to maximize the penetration of renewable energy,” *IEEE Access*, vol. 8, pp. 55279–55288, 2020, doi: 10.1109/ACCESS.2020.2981877.

- [10] F. A. Diawuo, S. De La Rue Du Can, P. C. Baptista, and C. A. Silva, "Assessing the impact of demand response on peak demand in a developing country: The case of Ghana," *IOP Conf. Ser. Earth Environ. Sci.*, vol. 642, no. 1, 2021, doi: 10.1088/1755-1315/642/1/012005.
- [11] A. Hirsch, Y. Parag, and J. Guerrero, "Microgrids: A review of technologies, key drivers, and outstanding issues," *Renew. Sustain. Energy Rev.*, vol. 90, no. March, pp. 402–411, 2018, doi: 10.1016/j.rser.2018.03.040.
- [12] M. F. Zia, E. Elbouchikhi, and M. Benbouzid, "Microgrids energy management systems: A critical review on methods, solutions, and prospects," *Appl. Energy*, vol. 222, no. April, pp. 1033–1055, 2018, doi: 10.1016/j.apenergy.2018.04.103.
- [13] J. Kumar, A. Agarwal, and V. Agarwal, "A review on overall control of DC microgrids," *J. Energy Storage*, vol. 21, no. September 2018, pp. 113–138, 2019, doi: 10.1016/j.est.2018.11.013.
- [14] D. Y. Yamashita, I. Vechiu, and J. P. Gaubert, "A review of hierarchical control for building microgrids," *Renew. Sustain. Energy Rev.*, vol. 118, no. January 2019, p. 109523, 2020, doi: 10.1016/j.rser.2019.109523.
- [15] M. Hamidi, O. Bouattane, and A. Raihani, "Microgrid energy management system: Technologies and architectures review," *Proc. - 2020 IEEE Int. Conf. Moroccan Geomatics, MORGEO 2020*, 2020, doi: 10.1109/Morgeo49228.2020.9121885.
- [16] G. Dwr *et al.*, "08126746," 2017.
- [17] L. Ren *et al.*, "Enabling resilient distributed power sharing in networked microgrids through software defined networking," *Appl. Energy*, vol. 210, pp. 1251–1265, 2018, doi: 10.1016/j.apenergy.2017.06.006.
- [18] M. Mehri Arsoon and S. M. Moghaddas-Tafreshi, "Peer-to-peer energy bartering for the resilience response enhancement of networked microgrids," *Appl. Energy*, vol. 261, no. August 2019, p. 114413, 2020, doi: 10.1016/j.apenergy.2019.114413.
- [19] B. Chen, J. Wang, X. Lu, C. Chen, and S. Zhao, "Networked Microgrids for Grid Resilience, Robustness, and Efficiency: A Review," *IEEE Trans. Smart Grid*, vol. 12, no. 1, pp. 18–32, 2021, doi: 10.1109/TSG.2020.3010570.

- [20] D. Espín-Sarzosa, R. Palma-Behnke, and O. Núñez-Mata, “Energy management systems for microgrids: Main existing trends in centralized control architectures,” *Energies*, vol. 13, no. 3, pp. 1–32, 2020, doi: 10.3390/en13030547.
- [21] A. Bani-Ahmed, M. Rashidi, A. Nasiri, and H. Hosseini, “Reliability Analysis of a Decentralized Microgrid Control Architecture,” *IEEE Trans. Smart Grid*, vol. 10, no. 4, pp. 3910–3918, 2019, doi: 10.1109/TSG.2018.2843527.
- [22] P. Lin, P. Wang, J. Xiao, C. Jin, and K. L. Hai, “A distributed control architecture for hybrid AC/DC microgrid economic operation,” *Proc. 13th IEEE Conf. Ind. Electron. Appl. ICIEA 2018*, pp. 690–694, 2018, doi: 10.1109/ICIEA.2018.8397802.
- [23] Q. Zhou, M. Shahidehpour, A. Paaso, S. Bahramirad, A. Alabdulwahab, and A. Abusorrah, “Distributed Control and Communication Strategies in Networked Microgrids,” *IEEE Commun. Surv. Tutorials*, vol. 1, no. c, pp. 1–1, 2020, doi: 10.1109/comst.2020.3023963.
- [24] K. Tazi, F. M. Abbou, and F. Abdi, *Multi-agent system for microgrids: design, optimization and performance*, vol. 53, no. 2. Springer Netherlands, 2020.
- [25] H. V. V. Priyadarshana, M. A. K. Sandaru, K. T. M. U. Hemapala, and W. D. A. S. Wijayapala, “A review on multi-agent system based energy management systems for micro grids,” *AIMS Energy*, vol. 7, no. 6, pp. 924–943, 2019, doi: 10.3934/ENERGY.2019.6.924.
- [26] M. K. Perera *et al.*, “Multi agent based energy management system for microgrids,” *PIICON 2020 - 9th IEEE Power India Int. Conf.*, no. July, pp. 6–11, 2020, doi: 10.1109/PIICON49524.2020.9113021.
- [27] V. N. Coelho, M. Weiss Cohen, I. M. Coelho, N. Liu, and F. G. Guimarães, “Multi-agent systems applied for energy systems integration: State-of-the-art applications and trends in microgrids,” *Appl. Energy*, vol. 187, pp. 820–832, 2017, doi: 10.1016/j.apenergy.2016.10.056.
- [28] A. Dorri, S. S. Kanhere, and R. Jurdak, “Multi-Agent Systems: A Survey,” *IEEE Access*, vol. 6, pp. 28573–28593, 2018, doi: 10.1109/ACCESS.2018.2831228.
- [29] A. G. Lez-Briones, F. De La Prieta, M. S. Mohamad, S. Omatu, and J. M. Corchado, “Multi-agent systems applications in energy optimization problems: A state-of-the-art review,” *Energies*, vol. 11, no. 8, pp. 1–28, 2018, doi: 10.3390/en11081928.

- [30] M. Botvinick, S. Ritter, J. X. Wang, Z. Kurth-Nelson, C. Blundell, and D. Hassabis, “Reinforcement Learning, Fast and Slow,” *Trends Cogn. Sci.*, vol. 23, no. 5, pp. 408–422, 2019, doi: 10.1016/j.tics.2019.02.006.
- [31] C. Essayeh, M. Raiss El-Fenni, and H. Dahmouni, “Cost-Effective Energy Usage in a Microgrid Using a Learning Algorithm,” *Wirel. Commun. Mob. Comput.*, vol. 2018, 2018, doi: 10.1155/2018/9106430.
- [32] Y. Lim and H.-M. Kim, “Strategic bidding using reinforcement learning for load shedding in microgrids,” *Computers & Electrical Engineering*, vol. 40, no. 5, pp. 1439–1446, 2017.
- [33] T. Levent, P. Preux, E. Le Pennec, J. Badosa, G. Henri, and Y. Bonnassieux, “Energy Management for Microgrids: A Reinforcement Learning Approach,” *Proc. 2019 IEEE PES Innov. Smart Grid Technol. Eur. ISGT-Europe 2019*, pp. 1–5, 2019, doi: 10.1109/ISGTEurope.2019.8905538.
- [34] R. Saravanan and P. Sujatha, “Algorithms: A Perspective of Supervised Learning Approaches in Data Classification,” *2018 Second Int. Conf. Intell. Comput. Control Syst.*, no. Iccics, pp. 945–949, 2018.
- [35] B. Rao, “Machine Learning Algorithms: A Review,” *Int. J. Comput. Sci. Inf. Technol.*, vol. 7, no. 3, pp. 1174–1179, 2016, doi: 10.21275/ART20203995.
- [36] J. Shin, T. A. Badgwell, K. H. Liu, and J. H. Lee, “Reinforcement Learning – Overview of recent progress and implications for process control,” *Comput. Chem. Eng.*, vol. 127, pp. 282–294, 2019, doi: 10.1016/j.compchemeng.2019.05.029.
- [37] Z. Zhang, D. Zhang, and R. C. Qiu, “Deep reinforcement learning for power system: An overview,” *CSEE J. Power Energy Syst.*, 2019, doi: 10.17775/cseejpes.2019.00920.
- [38] D. Zhang, X. Han, and C. Deng, “Review on the research and practice of deep learning and reinforcement learning in smart grids,” *CSEE J. Power Energy Syst.*, vol. 4, no. 3, pp. 362–370, 2018, doi: 10.17775/cseejpes.2018.00520.
- [39] T. Ding, Z. Zeng, J. Bai, B. Qin, Y. Yang, and M. Shahidehpour, “Optimal Electric Vehicle Charging Strategy with Markov Decision Process and Reinforcement Learning Technique,” *IEEE Trans. Ind. Appl.*, vol. 56, no. 5, pp. 5811–5823, 2020, doi: 10.1109/TIA.2020.2990096.
- [40] T. P. Le, N. A. Vien, and T. Chung, “A Deep Hierarchical Reinforcement Learning Algorithm in Partially Observable Markov Decision Processes,” *IEEE*

Access, vol. 6, no. c, pp. 49089–49102, 2018, doi:
10.1109/ACCESS.2018.2854283.

- [41] T. A. Bojesen, “Policy-guided Monte Carlo: Reinforcement-learning Markov chain dynamics,” *Phys. Rev. E*, vol. 98, no. 6, pp. 1–16, 2018, doi: 10.1103/PhysRevE.98.063303.
- [42] M. Ruiz-Montiel, L. Mandow, and J. L. Pérez-de-la-Cruz, “A temporal difference method for multi-objective reinforcement learning,” *Neurocomputing*, vol. 263, no. 2017, pp. 15–25, 2017, doi: 10.1016/j.neucom.2016.10.100.
- [43] M. Ruiz-Montiel, L. Mandow, and J. L. Pérez-de-la-Cruz, “A temporal difference method for multi-objective reinforcement learning,” *Neurocomputing*, vol. 263, no. 2017, pp. 15–25, 2017, doi: 10.1016/j.neucom.2016.10.100.
- [44] R. S. Sutton and A. G. Barto, *Reinforcement Learning: An Introduction*, 2nd ed. London, England: The MIT Press, 2014.
- [45] M. Ruiz-Montiel, L. Mandow, and J. L. Pérez-de-la-Cruz, “A temporal difference method for multi-objective reinforcement learning,” *Neurocomputing*, vol. 263, no. 2017, pp. 15–25, 2017, doi: 10.1016/j.neucom.2016.10.100.
- [46] X. Han, H. He, J. Wu, J. Peng, and Y. Li, “Energy management based on reinforcement learning with double deep Q-learning for a hybrid electric tracked vehicle,” *Appl. Energy*, vol. 254, no. August, p. 113708, 2019, doi: 10.1016/j.apenergy.2019.113708.
- [47] M. Prauzek, N. R. A. Mourcet, J. Hlavica, and P. Musilek, “Q-Learning Algorithm for Energy Management in Solar Powered Embedded Monitoring Systems,” *2018 IEEE Congr. Evol. Comput. CEC 2018 - Proc.*, pp. 1–7, 2018, doi: 10.1109/CEC.2018.8477781.
- [48] V. H. Bui, A. Hussain, and H. M. Kim, “Q-learning-based operation strategy for community battery energy storage system (CBESS) in microgrid system,” *Energies*, vol. 12, no. 9, 2019, doi: 10.3390/en12091789.
- [49] E. S. Low, P. Ong, and K. C. Cheah, “Solving the optimal path planning of a mobile robot using improved Q-learning,” *Rob. Auton. Syst.*, vol. 115, pp. 143–161, 2019, doi: 10.1016/j.robot.2019.02.013.
- [50] X. Dong, J. Shen, W. Wang, L. Shao, H. Ling, and F. Porikli, “Dynamical hyperparameter optimization via deep reinforcement learning in tracking,” *IEEE Trans. Pattern Anal. Mach. Intell.*, vol. 43, no. 5, pp. 1515–1529, 2021, doi: 10.1109/TPAMI.2019.2956703.

- [51] D. Lee, N. He, P. Kamalaruban, and V. Cevher, "Optimization for Reinforcement Learning," no. May, pp. 123–135, 2020.
- [52] A. Nowé, P. Vrancx, and Y. M. De Hauwere, "Game theory and multi-agent reinforcement learning," *Adapt. Learn. Optim.*, vol. 12, pp. 441–470, 2012, doi: 10.1007/978-3-642-27645-3_14.
- [53] R. Leo, R. S. Milton, and S. Sibi, "Reinforcement learning for optimal energy management of a solar microgrid," *2014 IEEE Glob. Humanit. Technol. Conf. - South Asia Satell. GHTC-SAS 2014*, no. September 2014, pp. 183–188, 2014, doi: 10.1109/GHTC-SAS.2014.6967580.
- [54] L. Raju, S. Sankar, and R. S. Milton, "Distributed optimization of solar microgrid using multi agent reinforcement learning," *Procedia Comput. Sci.*, vol. 46, no. Ict 2014, pp. 231–239, 2015, doi: 10.1016/j.procs.2015.02.016.
- [55] R. Leo, R. S. Milton, and S. Sibi, "Reinforcement learning for optimal energy management of a solar microgrid," *2014 IEEE Glob. Humanit. Technol. Conf. - South Asia Satell. GHTC-SAS 2014*, no. September 2014, pp. 183–188, 2014, doi: 10.1109/GHTC-SAS.2014.6967580.
- [56] E. Kuznetsova, Y. F. Li, C. Ruiz, E. Zio, G. Ault, and K. Bell, "Reinforcement learning for microgrid energy management," *Energy*, vol. 59, pp. 133–146, 2013, doi: 10.1016/j.energy.2013.05.060.
- [57] R. B. Diddigi, D. S. K. Reddy, and S. Bhatnagar, "Multi-Agent Q-Learning for Minimizing Demand-Supply Power Deficit in Microgrids," 2017, [Online]. Available: <http://arxiv.org/abs/1708.07732>.
- [58] F. Lauri, G. Basso, J. Zhu, R. Roche, and V. Hilaire, "Managing Power Flows in Microgrids Using Multi-Agent Reinforcement Learning," *Agent Technol. Energy Syst.*, pp. 1–8, 2013.
- [59] A. L. Dimeas and N. D. Hatziargyriou, "Multi-agent reinforcement learning for microgrids," *IEEE PES Gen. Meet. PES 2015*, pp. 1–8, 2010, doi: 10.1109/PES.2010.5589633.
- [60] P. Kofinas, G. Vouros, and A. I. Dounis, "Energy management in solar microgrid via reinforcement learning," *ACM Int. Conf. Proceeding Ser.*, vol. 18-20-May-, 2016, doi: 10.1145/2903220.2903257.

- [61] T. Yu, X. S. Zhang, B. Zhou, and K. W. Chan, “Hierarchical correlated Q-learning for multi-layer optimal generation command dispatch,” *Int. J. Electr. Power Energy Syst.*, vol. 78, pp. 1–12, 2016, doi: 10.1016/j.ijepes.2015.11.057.
- [62] E. Foruzan, L. K. Soh, and S. Asgarpour, “Reinforcement Learning Approach for Optimal Distributed Energy Management in a Microgrid,” *IEEE Trans. Power Syst.*, vol. 33, no. 5, pp. 5749–5758, 2018, doi: 10.1109/TPWRS.2018.2823641.
- [63] Y. Shang *et al.*, “Stochastic dispatch of energy storage in microgrids: An augmented reinforcement learning approach,” *Appl. Energy*, vol. 261, no. October 2019, p. 114423, 2020, doi: 10.1016/j.apenergy.2019.114423.
- [64] Q. Xu, J. Xiao, P. Wang, and C. Wen, “A Decentralized Control Strategy for Economic Operation of Autonomous AC, DC, and Hybrid AC/DC Microgrids,” *IEEE Trans. Energy Convers.*, vol. 32, no. 4, pp. 1345–1355, 2017, doi: 10.1109/TEC.2017.2696979.
- [65] B. Kim, Y. Zhang, S. Member, M. Van Der Schaar, J. Lee, and S. Member, “Scheduling With Reinforcement Learning,” *IEEE Trans. Smart Grid*, vol. 7, no. 5, pp. 2187–2198, 2016.
- [66] Y. Lim and H. M. Kim, “Strategic bidding using reinforcement learning for load shedding in microgrids,” *Comput. Electr. Eng.*, vol. 40, no. 5, pp. 1439–1446, 2014, doi: 10.1016/j.compeleceng.2013.12.013.
- [67] Y. Wang, H. Lin, Y. Liu, Q. Sun, and R. Wennersten, “Management of household electricity consumption under price-based demand response scheme,” *J. Clean. Prod.*, vol. 204, pp. 926–938, 2018, doi: 10.1016/j.jclepro.2018.09.019.
- [68] O. I. Abiodun, A. Jantan, A. E. Omolara, K. V. Dada, N. A. E. Mohamed, and H. Arshad, “State-of-the-art in artificial neural network applications: A survey,” *Heliyon*, vol. 4, no. 11, p. e00938, 2018, doi: 10.1016/j.heliyon.2018.e00938.
- [69] A. H. Elsheikh, S. W. Sharshir, M. Abd Elaziz, A. E. Kabeel, W. Guilan, and Z. Haiou, “Modeling of solar energy systems using artificial neural network: A comprehensive review,” *Sol. Energy*, vol. 180, no. January, pp. 622–639, 2019, doi: 10.1016/j.solener.2019.01.037.
- [70] J. F. Bermejo, J. F. G. Fernández, F. O. Polo, and A. C. Márquez, “A review of the use of artificial neural network models for energy and reliability prediction. A study of the solar PV, hydraulic and wind energy sources,” *Appl. Sci.*, vol. 9, no. 9, 2019, doi: 10.3390/app9091844.

- [71] K. R. Srinath, "Python – The Fastest Growing Programming Language," *Int. Res. J. Eng. Technol.*, pp. 354–357, 2017, [Online].
- [72] A. Nagpal and G. Gabrani, "Python for Data Analytics, Scientific and Technical Applications," *Proc. - 2019 Amity Int. Conf. Artif. Intell. AICAI 2019*, pp. 140–145, 2019, doi: 10.1109/AICAI.2019.8701341.
- [73] P. Kofinas, G. Vouros, and A. I. Dounis, "Energy management in solar microgrid via reinforcement learning using fuzzy reward," *Advances in Building Energy Research*, vol. 12, no. 1, pp. 97–115, 2017.
- [74] S. Kim and H. Lim, "Reinforcement learning based energy management algorithm for smart energy buildings," *Energies*, vol. 11, no. 8, 2018, doi: 10.3390/en11082010.
- [75] A. D. Tijssma, M. M. Drugan, and M. A. Wiering, "Comparing exploration strategies for Q-learning in random stochastic mazes," *2016 IEEE Symp. Ser. Comput. Intell. SSCI 2016*, 2017, doi: 10.1109/SSCI.2016.7849366.