

REFERENCES

- [1] X. Xiao, B. Liu, G. Warnell and P. Stone, "Motion planning and control for mobile robot navigation using machine learning: a survey," Springer, vol. 46, no. 5, p. 111, 2022.
- [2] J. Bi, T. Xiao, Q. Sun and C. Xu, "Navigation by Imitation in a Pedestrian-Rich Environment," in Computer Science, 2018.
- [3] M. B. Alatis and G. P. Hancke, "A Review on Challenges of Autonomous Mobile Robot and Sensor Fusion Methods," in IEEE Access (Volume: 8), 2020.
- [4] Y. N. Harari, Homo Deus: A Brief History of Tomorrow, Israel: Harvill Secker, 2015, p. 448.
- [5] C. Qixin, H. Yanwen and Z. Jingliang, "An Evolutionary Artificial Potential Field Algorithm for Dynamic Path Planning of Mobile Robot," in IEEE/RSJ International Conference on Intelligent Robots and Systems, Beijing, China, 2006.
- [6] I. Iswanto, A. Ma'arif, O. Wahyunggoro and A. Imam, "Artificial Potential Field Algorithm Implementation for Quadrotor Path Planning," (IJACSA) International Journal of Advanced Computer Science and Applications, vol. 10, 2019.
- [7] H. Heidenreich, "towardsdatascience," 5 December 2018. [Online]. Available: <https://towardsdatascience.com/what-are-the-types-of-machine-learning-e2b9e5d1756f>. [Accessed 2023].
- [8] K. Zhu and T. Zhang, "Deep reinforcement learning based mobile robot navigation: A review," in Tsinghua Science and Technology, 2021.
- [9] C. Chen, Y. Liu, S. Kreiss and A. Alahi, "Crowd-Robot Interaction: Crowd-aware Robot Navigation with Attention-based Deep Reinforcement Learning," 2018.
- [10] L. Liu, D. Dugas, G. Cesari, R. Siegwart and R. Dubé, "Robot Navigation in Crowded Environments Using Deep Reinforcement Learning," in 2020 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Las Vegas, NV, USA, 2021.
- [11] Y. F. Chen, M. Everett, M. Liu and J. P. How, "Socially aware motion planning with deep reinforcement learning," in 2017 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Vancouver, BC, Canada, 2017.

- [12] M. Everett, Y. F. Chen and J. P. How, "Motion Planning Among Dynamic, Decision-Making Agents with Deep Reinforcement Learning," in 2018 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Madrid, Spain, 2018.
- [13] Y. F. Chen, M. Liu, M. Everett and J. How, "Decentralized non-communicating multiagent collision avoidance with deep reinforcement learning," in 2017 IEEE International Conference on Robotics and Automation (ICRA), Singapore, 2017.
- [14] Y. Sasaki, S. Matsuo, A. Kanezaki and H. Takemura, "A3C Based Motion Learning for an Autonomous Mobile Robot in Crowds," in 2019 IEEE International Conference on Systems, Man and Cybernetics (SMC), Bari, Italy, 2019.
- [15] Y. Chen, C. Liu, B. E. Shi and M. Liu, "Robot Navigation in Crowds by Graph Convolutional Networks With Attention Learned From Human Gaze," IEEE Robotics and Automation Letters , vol. 5, no. 2, pp. 2754 - 2761, 2020.
- [16] C. Liu, Y. Chen, M. Liu and B. E. Shi, "AVGCN: Trajectory Prediction using Graph Convolutional Networks Guided by Human Attention," in IEEE International Conference on Robotics and Automation (ICRA), Xi'an, China, 2021 .
- [17] D. Rodriguez-Criado, P. Bachiller and L. J. Manso , "Generation of Human-Aware Navigation Maps Using Graph Neural Networks," in Springer, Cham, 2021.
- [18] Q. Qiu, S. Yao, J. Wang, J. Ma, G. Chen and J. Ji, "Learning to Socially Navigate in Pedestrian-rich Environments with Interaction Capacity," in International Conference on Robotics and Automation (ICRA), Philadelphia, PA, USA, 2022.
- [19] Z. Zhou, P. Zhu, Z. Zeng, J. Xiao, H. Lu and Z. Zhou, "Robot Navigation in a Crowd by Integrating Deep Reinforcement Learning and Online Planning," 2021.
- [20] "leishenlidar," Leishen Intelligent Systems Co., Ltd, [Online]. Available: <https://www.leishenlidar.com/product/ls01b-2d-lidar-scanner-indoor-use/>. [Accessed 01 February 2023].
- [21] "camelcamelcamel," [Online]. Available: <https://camelcamelcamel.com/product/B01MAWPMXQ>. [Accessed 01 February 2023].

- [22] "amazon," Epic Story, [Online]. Available: <https://www.amazon.com/Controller-Gamepad-Joystick-Microsoft-Windows/dp/B01F9B019Y>. [Accessed 01 February 2023].
- [23] M. Inc. [Online]. Available: https://www.inf.ufrgs.br/~prestes/Courses/Robotics/manual_pioneer.pdf. [Accessed 01 February 2023].
- [24] H.-l. Zhang, Y.-q. Chen and . X.-x. Pang , "A Study on the Conversion Method Based on Standard Pedestrian Equivalent Factors at Signalized Crosswalks in China," International Journal of Intelligent Transportation Systems Research, p. 320–329, 2022.
- [25] "karmor-sports," KARMOR , [Online]. Available: <https://karmor-sports.com/asianfit>. [Accessed 01 February 2023].
- [26] W. Masson, P. Ranchod and G. Konidaris, "Reinforcement Learning with Parameterized Actions," 2015.
- [27] W. L. Keng and L. Graesser, Foundations of Deep Reinforcement Learning: Theory and Practice in Python, Addison-Wesley Professional; 1st edition, 2019.
- [28] C. M. Bowyer, "medium," 29 May 2022. [Online]. Available: <https://medium.com/mllearning-ai/characteristics-of-rewards-in-reinforcement-learning-f5722079aef5>. [Accessed 01 February 2023].
- [29] T. Hirtz, gym-hybrid [v0.1.0], GitHub, 2022.
- [30] "research.google.com," Google, [Online]. Available: <https://research.google.com/colaboratory/faq.html>. [Accessed 01 February 2023].
- [31] S. Roberts, "towardsdatascience," Towards Data Science, 8 June 2022. [Online]. Available: <https://towardsdatascience.com/creating-a-custom-gym-environment-for-jupyter-notebooks-e17024474617>. [Accessed 01 February 2023].
- [32] "kinsta," 13 December 2022. [Online]. Available: <https://kinsta.com/knowledgebase/what-is-github/>. [Accessed 01 February 2023].
- [33] "jupyter-notebook.readthedocs," [Online]. Available: <https://jupyter-notebook.readthedocs.io/en/stable/>. [Accessed 01 February 2023].

- [34] Jupyter-notebook kernel is dying often. Any thoughts on what's going on?, reddit, 2022.
- [35] J. Xiong, Q. Wang, Z. Yang, P. Sun, L. Han, Y. Zheng, H. Fu, T. Zhang, J. Liu and H. Liu, "Parametrized Deep Q-Networks Learning: Reinforcement Learning with Discrete-Continuous Hybrid Action Space," 2018.
- [36] Z. Fan, R. Su, W. Zhang and Y. Yu, "Hybrid Actor-Critic Reinforcement Learning in Parameterized Action Space," 2019.
- [37] B. Li, H. Tang, Y. Zheng, J. Hao, P. Li, Z. Wang, Z. Meng and L. Wang, "HyAR: Addressing Discrete-Continuous Action Reinforcement Learning via Hybrid Action Representation," in ICLR, 2022.
- [38] Contributors, {DI-engine: OpenDILab} Decision Intelligence Engine, GitHub, 2021.
- [39] Contributors, DI-engine - Documents.
- [40] A. Irpan, Deep Reinforcement Learning Doesn't Work Yet, rblogpost, 2018.
- [41] M. Inuwa, "Non-Generalization and Generalization of Machine learning Models," analyticsvidhya, 8 November 2022. [Online]. Available: <https://www.analyticsvidhya.com/blog/2022/10/non-generalization-and-generalization-of-machine-learning-models/#:~:text=The%20generalization%20of%20machine%20learning,Such%20a%20model%20is%20generalizable..> [Accessed 01 February 2023].
- [42] M. Rahtz, "Lessons Learned Reproducing a Deep Reinforcement Learning Paper," Amid Fish, 6 April 2018. [Online]. Available: <http://amid.fish/reproducing-deep-rl>. [Accessed 01 February 2023].
- [43] "Machine Learning Model Deployment," datarobot, [Online]. Available: <https://www.datarobot.com/wiki/machine-learning-model-deployment/#:~:text=What%20is%20Model%20Deployment%3F,one%20of%20the%20most%20cumbersome.> [Accessed 01 February 2023].

- [44] B. T., "Comprehensive Guide to Deploying Any ML Model as APIs With Python And AWS Lambda," Towards Data Science, 7 Sep 2022. [Online]. Available: <https://towardsdatascience.com/comprehensive-guide-to-deploying-any-ml-model-as-apis-with-python-and-aws-lambda-b441d257f1ec>. [Accessed 01 February 2023].
- [45] W. Zhao, J. P. Queralta and T. Westerlund, "Sim-to-Real Transfer in Deep Reinforcement Learning for Robotics: a Survey," in IEEE Symposium Series on Computational Intelligence (SSCI), Canberra, ACT, Australia, 2020.
- [46] I. Bytyçi and M. Y. Henein , "Stride Length Predicts Adverse Clinical Events in Older Adults: A Systematic Review and Meta-Analysis," Journal of Clinical Medicine, 2021.
- [47] H. T. Huong Giang, T. N. Khai Hoan, P. D. Thanh and I. Koo, "Hybrid NOMA/OMA-Based Dynamic Power Allocation Scheme Using Deep Reinforcement Learning in 5G Networks," MDPI, June 2020.
- [48] H.-K. Lim, J.-B. Kim, J.-S. Heo and Y.-H. Han, "Federated Reinforcement Learning for Training Control Policies on Multiple IoT Devices," MDPI, 2 March 2020.