

DAFTAR PUSTAKA

- [1] C. Cadena, L. Carlone, H. Carrillo, Y. Latif, D. Scaramuzza, J. Neira, I. Reid, and J. J. Leonard, "Past, present, and future of simultaneous localization and mapping: Toward the robust-perception age," *IEEE Transactions on Robotics*, vol. 32, no. 6, pp. 1309–1332, 2016.
- [2] H. Shi, G. Sun, Y. Wang, and K.-S. Hwang, "Adaptive image-based visual servoing with temporary loss of the visual signal," *IEEE Transactions on Industrial Informatics*, vol. 15, no. 4, pp. 1956–1965, 2019.
- [3] C. Linegar, W. Churchill, and P. Newman, "Made to measure: Bespoke landmarks for 24-hour, all-weather localisation with a camera," in *2016 IEEE International Conference on Robotics and Automation (ICRA)*, 2016, pp. 787–794.
- [4] M. Tomono, "3-d object map building using dense object models with sift-based recognition features," in *2006 IEEE/RSJ International Conference on Intelligent Robots and Systems*, 2006, pp. 1885–1890.
- [5] R. Sim and J. J. Little, "Autonomous vision-based exploration and mapping using hybrid maps and rao-blackwellised particle filters," in *2006 IEEE/RSJ International Conference on Intelligent Robots and Systems*, 2006, pp. 2082–2089.
- [6] B. R. Kiran, I. Sobh, V. Talpaert, P. Mannion, A. A. A. Sallab, S. Yogamani, and P. Pérez, "Deep reinforcement learning for autonomous driving: A survey," *IEEE Transactions on Intelligent Transportation Systems*, vol. 23, no. 6, pp. 4909–4926, 2022.
- [7] J. Shabbir and T. Anwer, "A survey of deep learning techniques for mobile robot applications," 2018.
- [8] T. P. Lillicrap, J. J. Hunt, A. Pritzel, N. Heess, T. Erez, Y. Tassa, D. Silver, and D. Wierstra, "Continuous control with deep reinforcement learning," 2019.
- [9] Y. F. Chen, M. Everett, M. Liu, and J. P. How, "Socially aware motion planning with deep reinforcement learning," 2018.
- [10] X. Ruan, D. Ren, X. Zhu, and J. Huang, "Mobile robot navigation based on deep reinforcement learning," in *2019 Chinese Control And Decision Conference (CCDC)*, 2019, pp. 6174–6178.
- [11] M. Gromniak and J. Stenzel, "Deep reinforcement learning for mobile robot navigation," in *2019 4th Asia-Pacific Conference on Intelligent Robot Systems (ACIRS)*, 2019, pp. 68–73.
- [12] H. Surmann, C. Jestel, R. Marchel, F. Musberg, H. Elhadj, and M. Ardani, "Deep reinforcement learning for real autonomous mobile robot navigation in indoor environments," 2020.
- [13] T. Okudo and S. Yamada, "Subgoal-based reward shaping to improve efficiency in reinforcement learning," *IEEE Access*, vol. 9, pp. 97 557–97 568, 2021.



- [14] D. Ferguson, M. Likhachev, and A. Stentz, "A guide to heuristic-based path planning," 01 2005.
- [15] T. T. Nguyen, N. D. Nguyen, and S. Nahavandi, "Deep reinforcement learning for multiagent systems: A review of challenges, solutions, and applications," *IEEE Transactions on Cybernetics*, vol. 50, no. 9, pp. 3826–3839, 2020.
- [16] X. Ruan, C. Lin, J. Huang, and Y. Li, "Obstacle avoidance navigation method for robot based on deep reinforcement learning," in *2022 IEEE 6th Information Technology and Mechatronics Engineering Conference (ITOEC)*, vol. 6, 2022, pp. 1633–1637.
- [17] K. Arulkumaran, M. P. Deisenroth, M. Brundage, and A. A. Bharath, "Deep reinforcement learning: A brief survey," *IEEE Signal Processing Magazine*, vol. 34, no. 6, pp. 26–38, 2017.
- [18] N. Smirnov and S. Tomforde, "Navigation support for an autonomous ferry using deep reinforcement learning in simulated maritime environments," in *2022 IEEE Conference on Cognitive and Computational Aspects of Situation Management (CogSIMA)*, 2022, pp. 142–149.
- [19] H. Shi, L. Shi, M. Xu, and K.-S. Hwang, "End-to-end navigation strategy with deep reinforcement learning for mobile robots," *IEEE Transactions on Industrial Informatics*, vol. 16, no. 4, pp. 2393–2402, 2020.
- [20] R. Sutton and A. Barto, "Reinforcement learning," *Journal of Cognitive Neuroscience*, vol. 11, pp. 126–134, 01 1999.
- [21] W. Dabney, M. Rowland, M. G. Bellemare, and R. Munos, "Distributional reinforcement learning with quantile regression," *CoRR*, vol. abs/1710.10044, 2017. [Online]. Available: <http://arxiv.org/abs/1710.10044>
- [22] J. Brownlee, "Difference between a batch and an epoch in a neural network," Aug 2022. [Online]. Available: <https://machinelearningmastery.com/difference-between-a-batch-and-an-epoch/>
- [23] B. AI. (2019) Deep reinforcement learning models: Tips tricks for writing reward functions. Medium. [Online]. Available: <https://medium.com/@BonsaiAI/deep-reinforcement-learning-models-tips-tricks-for-writing-reward-functions-a84fe525e8e0>
- [24] A. Raffin, "Dlrm/stable-baselines3: Pytorch version of stable baselines, reliable implementations of reinforcement learning algorithms." [Online]. Available: <https://github.com/DLR-RM/stable-baselines3>
- [25] Y. B. E. Coumans, "a python module for physicssimulation for games, robotics and machine learning," vol. PP, pp. 1–1, 06 2019.
- [26] E. Ackerman. [Online]. Available: <http://www.turtlebot.com/turtlebot2>
- [27] A. Francis, A. Faust, H.-T. L. Chiang, J. Hsu, J. C. Kew, M. Fiser, and T.-W. E. Lee, "Long-range indoor navigation with prm-rl," *IEEE Transactions on Robotics*, vol. 36, no. 4, pp. 1115–1134, 2020.



Navigasi Robot Bergerak Berbasis Deep Reinforcement Learning Dengan Reward Shaping

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- [28] R. Han, S. Chen, S. Wang, Z. Zhang, R. Gao, Q. Hao, and J. Pan, “Reinforcement learned distributed multi-robot navigation with reciprocal velocity obstacle shaped rewards,” *IEEE Robotics and Automation Letters*, vol. 7, no. 3, pp. 5896–5903, 2022.