

DAFTAR PUSTAKA

- [1] H. Li and A. V. Savkin, “An algorithm for safe navigation of mobile robots by a sensor network in dynamic cluttered industrial environments,” *Robotics and Computer-Integrated Manufacturing*, vol. 54, pp. 65–82, 2018.
- [2] F. Arvin, J. Espinosa, B. Bird, A. West, S. Watson, and B. Lennox, “Mona: an affordable open-source mobile robot for education and research,” *Journal of Intelligent & Robotic Systems*, vol. 4, pp. 761–775, 2019.
- [3] Q. Qiu, Z. Fan, Z. Meng, Q. Zhang, Y. Cong, B. Li, N. Wang, and C. Zhao, “Extended ackerman steering principle for the coordinated movement control of a four wheel drive agricultural mobile robot,” *Computers and Electronics in Agriculture*, vol. 152, pp. 40–50, 2018.
- [4] M. Al-Khawaldeh, I. Al-Naimi, X. Chen, and P. Moore, “Ubiquitous robotics for knowledge-based auto-configuration system within smart home environment,” in *2016 7th International Conference on Information and Communication Systems (ICICS)*, 2016, pp. 139–144.
- [5] J. Zhou, J. Zhou, Y. Zheng, and B. Kong, “Research on path planning algorithm of intelligent mowing robot used in large airport lawn,” in *2016 International Conference on Information System and Artificial Intelligence (ISAI)*, 2016, pp. 375–379.
- [6] T. Kanda, M. Shiomi, Z. Miyashita, H. Ishiguro, and N. Hagita, “An affective guide robot in a shopping mall,” in *2009 4th ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, 2009, pp. 173–180.
- [7] C. Chen, T. Liu, and J. Chou, “A novel crowding genetic algorithm and its applications to manufacturing robots,” *IEEE Transactions on Industrial Informatics*, vol. 10, no. 3, pp. 1705–1716, 2014.
- [8] P. Corke, *Robotics, Vision and Control: Fundamental Algorithms in MATLAB*, 1st ed. Springer Publishing Company, Incorporated, 2013.
- [9] A. Koubaa, H. Bennaceur, I. Châari, S. Trigui, A. Ammar, M. Sriti, M. Alajlan, O. Cheikhrouhou, and Y. Javed, *Robot Path Planning and Cooperation - Foundations, Algorithms and Experimentations*, ser. Studies in Computational Intelligence. Springer, 2018, vol. 772.
- [10] R. Visvanathan, S. M. Mamduh, K. Kamarudin, A. S. A. Yeon, A. Zakaria, A. Y. M. Shakaff, L. M. Kamarudin, and F. S. A. Saad, “Mobile robot localization system using multiple ceiling mounted cameras,” in *2015 IEEE SENSORS*, 2015, pp. 1–4.

- [11] T. Saito and Y. Kuroda, "Mobile robot localization by gps and sequential appearance-based place recognition," in *Proceedings of the 2013 IEEE/SICE International Symposium on System Integration*, 2013, pp. 25–30.
- [12] D. Forouher, M. G. Besselmann, and E. Maehle, "Sensor fusion of depth camera and ultrasound data for obstacle detection and robot navigation," in *2016 14th International Conference on Control, Automation, Robotics and Vision (ICARCV)*, 2016, pp. 1–6.
- [13] L. Baglivo, N. Bellomo, G. Miori, E. Marcuzzi, M. Pertile, and M. De Cecco, "An object localization and reaching method for wheeled mobile robots using laser rangefinder," in *2008 4th International IEEE Conference Intelligent Systems*, vol. 1, 2008, pp. 5–6–5–11.
- [14] H. Y. Zhang, W. M. Lin, and A. X. Chen, "Path planning for the mobile robot: A review," *Symmetry*, vol. 10, no. 10, pp. 450–466, Oct 2018.
- [15] X. Fan, Y. Guo, H. Liu, B. Wei, and W. Lyu, "Improved artificial potential field method applied for auv path planning," *Mathematical problems in engineering*, vol. 2020, pp. 1–21, 2020.
- [16] M. Elbanhawi and M. Simic, "Sampling-based robot motion planning: A review," *IEEE Access*, vol. 2, pp. 56–77, 2014.
- [17] T. T. Mac, C. Copot, D. T. Tran, and R. D. Keyser], "Heuristic approaches in robot path planning: A survey," *Robotics and Autonomous Systems*, vol. 86, pp. 13 – 28, 2016.
- [18] P. K. Mohanty and D. R. Parhi, "Controlling the motion of an autonomous mobile robot using various techniques: a review," *Journal of Advance Mechanical Engineering*, vol. 1, 2013.
- [19] O. Khatib, "Real-time obstacle avoidance for manipulators and mobile robots," in *Proceedings. 1985 IEEE International Conference on Robotics and Automation*, vol. 2, 1985, pp. 500–505.
- [20] S. M. Hosseini Rostami, A. Kumar, J. Wang, and X. Liu, "Obstacle avoidance of mobile robots using modified artificial potential field algorithm," *EURASIP Journal on Wireless Communications and Networking*, vol. 2019, 03 2019.
- [21] S. S. Ge and Y. J. Cui, "New potential functions for mobile robot path planning," *IEEE Transactions on Robotics and Automation*, vol. 16, no. 5, pp. 615–620, 2000.
- [22] J. Lee, Y. Nam, and S. Hong, "Random force based algorithm for local minima escape of potential field method," in *2010 11th International Conference on Control Automation Robotics Vision*, 2010, pp. 827–832.

- [23] N. S. F. Doria, E. O. Freire, and J. C. Basilio, "An algorithm inspired by the deterministic annealing approach to avoid local minima in artificial potential fields," in *2013 16th International Conference on Advanced Robotics (ICAR)*, 2013, pp. 1–6.
- [24] T. Weerakoon, K. Ishii, and A. A. F. Nassiraei, "An artificial potential field based mobile robot navigation method to prevent from deadlock," *Journal of Artificial Intelligence and Soft Computing Research*, vol. 5, no. 3, pp. 189 – 203, 2015.
- [25] M. Guerra, D. Efimov, G. Zheng, and W. Perruquetti, "Avoiding local minima in the potential field method using input-to-state stability," *Control Engineering Practice*, vol. 55, pp. 174–184, 2016.
- [26] T. D. Chen and Y. Y. Huang, "Non-trap artificial potential field based on virtual obstacle," in *2019 IEEE 16th International Conference on Networking, Sensing and Control (ICNSC)*, 2019, pp. 275–280.
- [27] U. Orozco-Rosas, O. Montiel, and R. Sepúlveda, "Mobile robot path planning using membrane evolutionary artificial potential field," *Applied Soft Computing Journal*, vol. 77, pp. 236–251, 2019.
- [28] P. Vadakkepat, Kay Chen Tan, and Wang Ming-Liang, "Evolutionary artificial potential fields and their application in real time robot path planning," in *Proceedings of the 2000 Congress on Evolutionary Computation. CEC00 (Cat. No.00TH8512)*, vol. 1, 2000, pp. 256–263 vol.1.
- [29] A. Melingui, T. Chettibi, R. Merzouki, and J. B. Mbede, "Adaptive navigation of an omni-drive autonomous mobile robot in unstructured dynamic environments," in *2013 IEEE International Conference on Robotics and Biomimetics (ROBIO)*, 2013, pp. 1924–1929.
- [30] L. Chen, "UUV path planning algorithm based on virtual obstacle," *2014 IEEE International Conference on Mechatronics and Automation, IEEE ICMA 2014*, pp. 1722–1727, 2014.
- [31] J. Choi, "A potential field and bug compound navigation algorithm for nonholonomic wheeled robots," in *2012 First International Conference on Innovative Engineering Systems*, 2012, pp. 166–171.
- [32] P. Wang, S. Gao, L. Li, B. Sun, and S. Cheng, "Obstacle Avoidance Path Planning Design for Autonomous Driving Vehicles Based on an Improved Artificial Potential Field Algorithm," *Energies*, vol. 12, no. 12, 2019.
- [33] J. Sun, J. U. N. Tang, and S. Lao, "Collision Avoidance for Cooperative UAVs With Optimized Artificial Potential Field Algorithm," *IEEE Access*, vol. 5, pp. 18 382–18 390, 2017.

- [34] W. Di, L. Caihong, G. Na, S. Yong, G. Tengting, and L. Guoming, "Local Path Planning of Mobile Robot Based on Artificial Potential Field," in *Proceedings of the 39th Chinese Control Conference*. IEEE, 2020, pp. 3677–3682.
- [35] P. Sudhakara, V. Ganapathy, B. Priyadharshini, and K. Sundaran, "Obstacle Avoidance and Navigation Planning of a Wheeled Mobile Robot using Amended Artificial Potential Field Method," *Procedia Computer Science*, vol. 133, pp. 998–1004, 2018.
- [36] X. Fan, Y. Guo, H. Liu, B. Wei, and W. Lyu, "Improved Artificial Potential Field Method Applied for AUV Path Planning," *Mathematical Problems in Engineering*, vol. 2020, p. 21, 2020.
- [37] I. Iswanto, A. Ma'arif, O. Wahyunggoro, and A. I. Cahyadi, "Artificial potential field algorithm implementation for quadrotor path planning," *International Journal of Advanced Computer Science and Applications*, vol. 10, no. 8, 2019.
- [38] X. Jiang and Y. Deng, "Uav track planning of electric tower pole inspection based on improved artificial potential field method," *Journal of Applied Science and Engineering*, vol. 24, pp. 123–132, April 2021.
- [39] H. H. Triharminto, O. Wahyunggoro, T. B. Adji, A. I. Cahyadi, and I. Ardiyanto, "A Novel of Repulsive Function on Artificial Potential Field for Robot Path Planning," *International Journal of Electrical and Computer Engineering*, vol. 6, no. 6, pp. 3262–3275, 2016.
- [40] Y. D. V. Yasuda, L. E. G. Martins, and F. A. M. Cappabianco, "Autonomous visual navigation for mobile robots: A systematic literature review," *ACM Comput. Surv.*, vol. 53, no. 1, Feb. 2020.
- [41] B. Hernández and E. Giraldo, "A review of path planning and control for autonomous robots," in *2018 IEEE 2nd Colombian Conference on Robotics and Automation (CCRA)*, 2018, pp. 1–6.
- [42] H. Yang and X. Teng, "Mobile robot path planning based on enhanced dynamic window approach and improved a* algorithm," *Journal of robotics*, vol. 2022, 2022.
- [43] J. Borenstein and Y. Koren, "Real-time obstacle avoidance for fast mobile robots," *IEEE Transactions on Systems, Man, and Cybernetics*, vol. 19, no. 5, pp. 1179–1187, 1989.
- [44] W. J. Yim and J. B. Park, "Analysis of mobile robot navigation using vector field histogram according to the number of sectors, the robot speed and the width of the path," in *2014 14th International Conference on Control, Automation and Systems (ICCAS 2014)*, 2014, pp. 1037–1040.

- [45] M. N. Zafar and J. Mohanta, "Methodology for path planning and optimization of mobile robots: A review," *Procedia Computer Science*, vol. 133, pp. 141 – 152, 2018, international Conference on Robotics and Smart Manufacturing (RoSMa2018).
- [46] B. Patle, G. L. Babu, A. Pandey, D. Parhi, and A. Jagadeesh, "A review: On path planning strategies for navigation of mobile robot," *Defence Technology*, vol. 15, no. 4, pp. 582 – 606, 2019.
- [47] G. Chen, N. Luo, D. Liu, Z. Zhao, and C. Liang, "Path planning for manipulators based on an improved probabilistic roadmap method," *Robotics and computer integrated manufacturing*, vol. 72, p. 102196, 2021.
- [48] R. Gonzalez, M. Kloetzer, and C. Mahulea, "Comparative study of trajectories resulted from cell decomposition path planning approaches," in *2017 21st International Conference on System Theory, Control and Computing (ICSTCC)*, 2017, pp. 49–54.
- [49] Y. Oh, K. Cho, Y. Choi, and S. Oh, "Chance-constrained multilayered sampling-based path planning for temporal logic-based missions," *IEEE transactions on automatic control*, vol. 66, no. 12, pp. 5816–5829, 2021.
- [50] M. Zimmermann and C. König, "Integration of a visibility graph based path planning method in the act/fhs rotorcraft," *CEAS Aeronautical Journal*, vol. 7, 06 2016.
- [51] S. Garrido and L. Moreno, *Mobile Robot Path Planning using Voronoi Diagram and Fast Marching*, 05 2015.
- [52] A. Alomari, W. Phillips, N. Aslam, and F. Comeau, "Dynamic fuzzy-logic based path planning for mobility-assisted localization in wireless sensor networks," *Sensors (Switzerland)*, vol. 17, no. 8, 2017.
- [53] S. Yang and M. Meng, "An efficient neural network approach to dynamic robot motion planning," *Neural Networks*, vol. 13, pp. 143–148, 04 2000.
- [54] M. M. Joshi and M. A. Zaveri, "Reactive Navigation of Autonomous Mobile Robot Using Neuro-Fuzzy System," *International Journal of Robotics and Automation (IJRA)*, vol. 2, no. 3, pp. 128–245, 2011.
- [55] K. Benbouabdallah and Z. Qi-dan, "Genetic Fuzzy Logic Control Technique for a Mobile Robot Tracking a Moving Target," *International Journal of Computer Science Issues*, vol. 10, no. 1, pp. 607–613, 2013.
- [56] G. Li, A. Yamashita, H. Asama, and Y. Tamura, "An efficient improved artificial potential field based regression search method for robot path planning," *2012 IEEE International Conference on Mechatronics and Automation, ICMA 2012*, pp. 1227–1232, 2012.

- [57] F. Bounini, D. Gingras, H. Pollart, and D. Gruyer, "Modified artificial potential field method for online path planning applications," *IEEE Intelligent Vehicles Symposium, Proceedings*, no. IV, pp. 180–185, 2017.
- [58] E. F. Mohamed, K. El-Metwally, and A. R. Hanafy, "An improved tangent bug method integrated with artificial potential field for multi-robot path planning," in *2011 International Symposium on Innovations in Intelligent Systems and Applications*, 2011, pp. 555–559.
- [59] I. Ardiyanto and J. Miura, "Real-time navigation using randomized kinodynamic planning with arrival time field," *Robotics and Autonomous Systems*, vol. 60, no. 12, pp. 1579–1591, 2012.
- [60] A. Lazarowska, "A discrete artificial potential field for ship trajectory planning," *Journal of Navigation*, vol. 73, pp. 233 – 251, 2019.
- [61] T. Y. Abdalla, A. A. Abed, and A. A. Ahmed, "Mobile robot navigation using pso-optimized fuzzy artificial potential field with fuzzy control," *Journal of Intelligent and Fuzzy Systems*, vol. 32, pp. 3893–3980, 2017.
- [62] W. S. Barbosa, M. M. Gioia, V. G. Natividade, R. F. F. Wanderley, M. R. Chaves, F. C. Gouvea, and F. M. Gonçalves, "Industry 4.0: examples of the use of the robotic arm for digital manufacturing processes," *International Journal on Interactive Design and Manufacturing (IJIDeM)*, vol. 14, 2020.
- [63] P. Margerit, T. Gobin, A. Lebéé, and J.-F. Caron, "The robotized laser doppler vibrometer: On the use of an industrial robot arm to perform 3d full-field velocity measurements," *Optics and Lasers in Engineering*, vol. 137, p. 106363, 2021.
- [64] J. J. Han, S.-Y. Woo, W.-J. Yi, and S. J. Hwang, "A robot arm and image-guided navigation assisted surgical system for maxillary repositioning in orthognathic surgery: A phantom skull-based trial," *Applied Sciences*, vol. 10, no. 4, 2020.
- [65] J. Wang, X. Yang, P. Li, S. Song, L. Liu, and M. Q.-H. Meng, "Design of a multi-arm concentric-tube robot system for transnasal surgery," *Medical & Biological Engineering & Computing*, vol. 58, 2020.
- [66] L. P. Ramalepa and R. S. Jamisola, "A review on cooperative robotic arms with mobile or drones bases," *International Journal of Automation and Computing*, vol. 18, pp. 536– 555, 2020.
- [67] C.-W. Chen, S.-P. Tseng, T.-W. Kuan, and J.-F. Wang, "Outpatient text classification using attention-based bidirectional lstm for robot-assisted servicing in hospital," *Information*, vol. 11, no. 2, 2020.

- [68] U. K. Mukherjee and K. K. Sinha, "Robot-assisted surgical care delivery at a hospital: Policies for maximizing clinical outcome benefits and minimizing costs," *Journal of Operations Management*, vol. 66, no. 1-2, pp. 227–256, 2020.
- [69] G. Karalekas, S. Vologiannidis, and J. Kalomiros, "Europa: A case study for teaching sensors, data acquisition and robotics via a ros-based educational robot," *Sensors*, vol. 20, no. 9, 2020.
- [70] A. Concha Sánchez, J. F. Figueroa-Rodríguez, A. G. Fuentes-Covarrubias, R. Fuentes-Covarrubias, and S. K. Gadi, "Recycling and updating an educational robot manipulator with open-hardware-architecture," *Sensors*, vol. 20, no. 6, 2020.
- [71] Y. Luo, S. Li, and D. Li, "Intelligent perception system of robot visual servo for complex industrial environment," *Sensors*, vol. 20, no. 24, 2020.
- [72] M. Bottin, S. Cocuzza, N. Comand, and A. Doria, "Modeling and identification of an industrial robot with a selective modal approach," *Applied Sciences*, vol. 10, no. 13, 2020.
- [73] L. Emmi, E. Le Flécher, V. Cadenat, and M. Devy, "A hybrid representation of the environment to improve autonomous navigation of mobile robots in agriculture," *Precision Agriculture*, vol. 22, 2021.
- [74] A. S. Aguiar, F. N. dos Santos, J. B. Cunha, H. Sobreira, and A. J. Sousa, "Localization and mapping for robots in agriculture and forestry: A survey," *Robotics*, vol. 9, no. 4, 2020.
- [75] J. Yu, Z. Wu, Z. Su, T. Wang, and S. Qi, "Motion control strategies for a repetitive leaping robotic dolphin," *IEEE/ASME transactions on mechatronics*, vol. 24, no. 3, pp. 913–923, 2019.
- [76] C. J. Munoz Martinez, R. Castro Salguero, R. Palomares, and J. Cornejo, "Mechatronics development of terrestrial mobile robot for exploring and monitoring environmental parameters at mine analogue sites using iot platform." *IEEE*, 2020, pp. 1–4.
- [77] M. Orsag, C. Korpela, S. Bogdan, and P. Oh, "Dexterous aerial robots-mobile manipulation using unmanned aerial systems," *IEEE transactions on robotics*, vol. 33, no. 6, pp. 1453–1466, 2017.
- [78] M. Chang, Y. Sun, J. Bai, and L. Xiao, "Principles on longitudinal perching dynamics of fixed-wing flying robots." *IEEE*, 2019, pp. 191–195.
- [79] Z.-H. Cheng and H.-L. Pei, "Transition analysis and practical flight control for ducted fan fixed-wing aerial robot: Level path flight mode transition," *IEEE robotics and automation letters*, vol. 7, no. 2, pp. 3106–3113, 2022.

- [80] C. Zhou and J. Wu, “Kinematics, deformation, and aerodynamics of a flexible flapping rotary wing in hovering flight,” *Journal of bionics engineering*, vol. 18, no. 1, pp. 197–209, 2021.
- [81] J. Park and J. Yoo, “Indoor mapping guidance algorithm of rotary-wing uav including dead-end situations,” *Sensors (Basel, Switzerland)*, vol. 19, no. 22, p. 4854, 2019.
- [82] S. Cebollada, L. Payá, M. Flores, A. Peidró, and O. Reinoso, “A state-of-the-art review on mobile robotics tasks using artificial intelligence and visual data,” *Expert Systems with Applications*, vol. 167, p. 114195, 2021.
- [83] M. Kamedula and N. G. Tsagarakis, “Reactive support polygon adaptation for the hybrid legged-wheeled centauro robot,” *IEEE robotics and automation letters*, vol. 5, no. 2, pp. 1733–1740, 2020.
- [84] M. Kamedula, N. Kashiri, and N. G. Tsagarakis, “On the kinematics of wheeled motion control of a hybrid wheeled-legged centauro robot.” *IEEE*, 2018, pp. 2426–2433.
- [85] M. Bjelonic, P. K. Sankar, C. D. Bellicoso, H. Vallery, and M. Hutter, “Rolling in the deep - hybrid locomotion for wheeled-legged robots using online trajectory optimization,” *IEEE robotics and automation letters*, vol. 5, no. 2, pp. 3626–3633, 2020.
- [86] X. Li, Z. Xu, S. Li, K. Jiang, X. Zhou, and L. Jiang, “Kinematic control of wheeled mobile manipulators subject to inherent physical constraints and noise disturbances.” *IEEE*, 2021, pp. 417–422.
- [87] Z. Wang, Y. Wang, L. Zhang, H. Chen, Y. Pan, and W. Zhang, “Enhanced hybrid position and admittance control based on nonholonomic wheeled mobile manipulator with redundancy.” *IEEE*, 2021, pp. 508–515.
- [88] H. R. Shafei, M. Bahrami, and H. A. Talebi, “Trajectory tracking of an uncertain wheeled mobile robotic manipulator with a hybrid control approach,” *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, vol. 42, no. 6, 2020.
- [89] T. Jenkins, S. Atay, G. Buckner, and M. Bryant, “Genetic algorithm-based optimal design of a rolling-flying vehicle,” *Journal of mechanisms and robotics*, vol. 13, no. 5, 2021.
- [90] M. Pimentel and M. Basiri, “A bimodal rolling-flying robot for micro level inspection of flat and inclined surfaces,” *IEEE robotics and automation letters*, vol. 7, no. 2, pp. 5135–5142, 2022.

- [91] N. B. David and D. Zarrouk, "Design and analysis of fcstar, a hybrid flying and climbing sprawl tuned robot," *IEEE robotics and automation letters*, vol. 6, no. 4, pp. 6188–6195, 2021.
- [92] I. Jeong, Y. Jang, J. Park, and Y. K. Cho, "Motion planning of mobile robots for autonomous navigation on uneven ground surfaces," *Journal of computing in civil engineering*, vol. 35, no. 3, 2021.
- [93] I. H. Savci, A. Yilmaz, S. Karaman, H. Ocakli, and H. Temeltas, "Improving navigation stack of a ros-enabled industrial autonomous mobile robot (amr) to be incorporated in a large-scale automotive production," *International journal of advanced manufacturing technology*, vol. 120, no. 5-6, pp. 3647–3668, 2022.
- [94] T. F. Abaas and A. H. Shabeeb, "Autonomous mobile robot navigation based on pso algorithm with inertia weight variants for optimal path planning," *IOP conference series. Materials Science and Engineering*, vol. 928, no. 2, p. 22005, 2020.
- [95] P. T. Nguyen, S.-W. Yan, J.-F. Liao, and C.-H. Kuo, "Autonomous mobile robot navigation in sparse lidar feature environments," *Applied sciences*, vol. 11, no. 13, p. 5963, 2021.
- [96] N. Krichen, M. S. Masmoudi, and N. Derbel, "Autonomous omnidirectional mobile robot navigation based on hierarchical fuzzy systems," *Engineering computations*, vol. 38, no. 2, pp. 989–1023, 2020;2021;.
- [97] H. Ahmad, A. N. F. Mohamad Pajeri, N. A. Othman, M. M. Saari, and M. S. Ramli, "Analysis of mobile robot path planning with artificial potential fields," in *Proceedings of the 10th National Technical Seminar on Underwater System Technology 2018*. Singapore: Springer Singapore, 2019, pp. 181–196.
- [98] M. Russo and M. Ceccarelli, "A survey on mechanical solutions for hybrid mobile robots," *Robotics (Basel)*, vol. 9, no. 2, p. 32, 2020.
- [99] T. Q. Khai, Y.-J. Ryoo, W.-R. Gill, and D.-Y. Im, "Design of kinematic controller based on parameter tuning by fuzzy inference system for trajectory tracking of differential-drive mobile robot," *International journal of fuzzy systems*, vol. 22, no. 6, pp. 1972–1978, 2020.
- [100] J. Felix-Rendon, J. C. Bello-Robles, and R. Q. Fuentes-Aguilar, "Control of differential-drive mobile robots for soft object deformation," *ISA transactions*, vol. 117, pp. 221–233, 2021.