


University	Peter the Great St. Petersburg Polytechnic University
Level of English proficiency	Advanced (C1)
Educational program and field of the educational program for which the applicant will be accepted	ENGINEERING AND TECHNOLOGY
List of research projects of the potential supervisor (participation/leadership)	Kinematic and Dynamic Modeling Based On Trajectory Tracking Control of Mobile Robot With Mechanic Wheels Motion Control and Movable Obstacles Avoidance of Mobile Robot With Mecanum Wheels
List of the topics offered for the prospective scientific research	Digital transformation of ecological-socio-economic systems as the main components of the quality of life of the population; Dynamics and kinematics of robotic systems Path and Trajectory Tracking for Mobile robots Control systems for robots Obstacles avoidance in wheeled mobile robots
 <p>Research supervisor: Dr. Hassan M. Alwan Professor at the University of Technology, Baghdad, Iraq</p>	<i>2.02. Electrical eng, electronic eng</i>
	Supervisor's research interests
	Kinematics and Dynamic Analysis, Robotic Systems, Parallel Robotics, Robotic Manipulators, Control systems, Robot Motion Planing
	Supervisor's specific requirements: Digital logistics platforms Smart supply chain Trading business Phygital service
	Supervisor's main publications 1. Alwan H. M., Rashid Z.H., "Kinematic Analysis and Simulation of Three Link (Open Chain) Robot Manipulator with Six DOF". Journal of Engineering and Applied Sciences, 13(7) 2018, P1829-1834. 2. Firas S. Hameed, Hassan M. Alwan, Qasim A. Atie, "Novel Approach to Solve the Inverse Kinematics Problem for a Multi – Degree of Freedom Robotic Arm". Journal of Engineering and Applied Sciences, Vol 14 No.(13) 2019, P4617-4624 3. Sameh F. Hasan, Hassan M. Alwan, "Design of Hybrid Controller for The Trajectory Tracking of Wheeled Mobile Robot With Mecanum Wheels". Journal of Mechanical Engineering Research and Developments, Vol.43, No.5, pp400-414, 2020 4. Hassan M. Alwan, "Kinematics Modeling and Simulation of Holonomic Wheeled Mobile Robot with Mecanum Wheels". Journal of Mechanical Engineering Research

	<p>and Developments, Vol.43, No.5, pp451-459, 2020</p> <ol style="list-style-type: none"> 5. Hassan M. Alwan, "Dynamic Analysis Modeling of a Holonomic Wheeled Mobile Robot with Mecanum Wheels Using Virtual Work Method". Journal of Mechanical Engineering Research and Developments, Vol.43, No.6, pp373-380, 2020 6. Hassan M. Alwan, "Path Tracking Simulation of a Wheeled Mobile Robot with Three Mecanum Wheels". Journal International Review of Mechanical Engineering (I.R.E.M.E), Vol.14, No.8, pp516-522, 2020 7. Hayder M. Ali, Israa Al-Esbe, Hassan M. Alwan. "A review of offshore wind turbines: global added capacity, monopile structure foundations stresses and deflection". Journal of Periodicals of Engineering and Natural Sciences, Vol.9, No.2, pp712-731, April 2021 8. Sameh F. Hasan, Hassan M. Alwan, "Obstacles Avoidance of Wheeled Mobile Robot By Using Modified Artificial Bee Colony Optimization". Design Engineering Journal, Issue 7, pp3713-3727, 2021 9. Sameh F. Hasan, Hassan M. Alwan, "Local Path Planning of a Four Mecanum Wheeled Mobile Robot Based on New Modified Ultrasonic Sensors With Experimental Implementation". International Journal of Mechanical Engineering, V.7, No.1, pp4621-4627, 2022 10. Sairoel Amertet, Girma Gebresentbet, Hassan M. Alwan and Kochneva Olga Vladimirovna "Assessment of Smart Mechatronics Applications In Agriculture: A Review". Applied Sciences MDPI 2023, 13, 7315
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