

# Amir Shapiro

## List of Publications by Year in descending order

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Version: 2024-02-01

91  
papers

1,267  
citations

516710

16  
h-index

434195

31  
g-index

94  
all docs

94  
docs citations

94  
times ranked

1332  
citing authors

| #  | ARTICLE  | IF  | CITATIONS |
|----|--|-----|-----------|
| 1  | SIMJig - Smart Independent Minimalist Jig. IEEE Robotics and Automation Letters, 2022, 7, 3396-3403.   | 5.1 | 1         |
| 2  | Characteristics of step responses following varying magnitudes of unexpected lateral perturbations during standing among older people – a cross-sectional laboratory-based study. BMC Geriatrics, 2022, 22, 400. | 2.7 | 9         |
| 3  | On-Board Physical Battery Replacement System and Procedure for Drones During Flight. IEEE Robotics and Automation Letters, 2022, 7, 9755-9762.   | 5.1 | 4         |
| 4  | Development and piloting of a perturbation stationary bicycle robotic system that provides unexpected lateral perturbations during bicycling (the PerStBiRo system). BMC Geriatrics, 2021, 21, 71.               | 2.7 | 2         |
| 5  | Wheel Loader Scooping Controller Using Deep Reinforcement Learning. IEEE Access, 2021, 9, 24145-24154.   | 4.2 | 25        |
| 6  | An Intelligent Algorithm for Decision Making System and Control of the GEMMA Guide Paradigm Using the Fuzzy Petri Nets Approach. Electronics (Switzerland), 2021, 10, 489.                                       | 3.1 | 3         |
| 7  | Grasping Assisting Algorithm in Tele-Operated Robotic Gripper. Applied Sciences (Switzerland), 2021, 11, 2640.   | 2.5 | 2         |
| 8  | The effects of an object’s height and weight on force calibration and kinematics when post-stroke and healthy individuals reach and grasp. Scientific Reports, 2021, 11, 20559.                                  | 3.3 | 4         |
| 9  | The kinematics and strategies of recovery steps during lateral losses of balance in standing at different perturbation magnitudes in older adults with varying history of falls. BMC Geriatrics, 2020, 20, 249.  | 2.7 | 19        |
| 10 | Model and Analysis of Piezoelectric Actuator in Practical Three-Stage Mechanism. International Journal of Precision Engineering and Manufacturing, 2020, 21, 1717-1728.  | 2.2 | 4         |
| 11 | Jamming-Free Immobilizing Grasps Using Dual-Friction Robotic Fingertips. IEEE Robotics and Automation Letters, 2020, 5, 2889-2896.   | 5.1 | 10        |
| 12 | A Variable-Structure Robot Hand That Uses the Environment to Achieve General Purpose Grasps. IEEE Robotics and Automation Letters, 2020, 5, 4804-4811.   | 5.1 | 6         |
| 13 | Characteristics of First Recovery Step Response following Unexpected Loss of Balance during Walking: A Dynamic Approach. Gerontology, 2020, 66, 362-370.   | 2.8 | 12        |
| 14 | Tight coupling of human walking and a four-legged walking-device inspired by insect six-legged locomotion. Engineering Research Express, 2020, 2, 036001.  | 1.6 | 2         |
| 15 | Position-Based Visual Servoing of a Micro-Aerial Vehicle Operating Indoor. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2019, 141, .   | 1.6 | 2         |
| 16 | A Vibrotactile Vest for Remote Human-Dog Communication. , 2019, , .  |     | 4         |
| 17 | Dogs Can Understand Haptic Communication. , 2019, , .  |     | 2         |
| 18 | Perturbation exercises during treadmill walking improve pelvic and trunk motion in older adults – A randomized control trial. Archives of Gerontology and Geriatrics, 2018, 75, 132-138.                         | 3.0 | 7         |

| #  | ARTICLE   | IF   | CITATIONS |
|----|---|------|-----------|
| 19 | Gait Coordination Deteriorates in Independent Old-Old Adults. <i>Journal of Aging and Physical Activity</i> , 2018, 26, 382-389.  | 1.0  | 18        |
| 20 | Dynamic regrasping by in-hand orienting of grasped objects using non-dexterous robotic grippers. <i>Robotics and Computer-Integrated Manufacturing</i> , 2018, 50, 114-131.                         | 9.9  | 12        |
| 21 | Virtual verification of 5-axis machine tools based on workpiece accuracy analysis: Software tool instead of expensive machining tests. <i>Procedia Manufacturing</i> , 2018, 21, 228-235.           | 1.9  | 3         |
| 22 | On Laterally Perturbed Human Stance: Experiment, Model, and Control. <i>Applied Bionics and Biomechanics</i> , 2018, 2018, 1-20.  | 1.1  | 2         |
| 23 | Caging Polygonal Objects Using Formationally Similar Three-Finger Hands. <i>IEEE Robotics and Automation Letters</i> , 2018, 3, 3271-3278.  | 5.1  | 8         |
| 24 | Object surface exploration using low-cost rolling robotic fingertips. , 2018, , .   |      | 2         |
| 25 | Investigation of the Coin Snapping Phenomenon in Linearly Compliant Robot Grasps. <i>IEEE Transactions on Robotics</i> , 2018, 34, 794-804.   | 10.3 | 3         |
| 26 | The inter-observer reliability and agreement of lateral balance recovery responses in older and younger adults. <i>Journal of Electromyography and Kinesiology</i> , 2018, 40, 39-47.               | 1.7  | 16        |
| 27 | Position Control of a Pneumatic Actuator Under Varying External Force. <i>Mechanics and Mechanical Engineering</i> , 2018, 22, 1157-1174.   | 0.2  | 1         |
| 28 | An analysis of grasp quality measures for the application of sheet metal parts grasping. <i>Autonomous Robots</i> , 2017, 41, 145-161.  | 4.8  | 3         |
| 29 | Caging Polygonal Objects Using Equilateral Three-Finger Hands. <i>IEEE Robotics and Automation Letters</i> , 2017, 2, 1672-1679.  | 5.1  | 7         |
| 30 | Online Robot Navigation Using Continuously Updated Artificial Temperature Gradients. <i>IEEE Robotics and Automation Letters</i> , 2017, 2, 1280-1287.  | 5.1  | 14        |
| 31 | Vision Based Output Feedback Control of Micro Aerial Vehicles in Indoor Environments. <i>Journal of Intelligent and Robotic Systems: Theory and Applications</i> , 2017, 87, 169-186.               | 3.4  | 8         |
| 32 | Validity of the microsoft kinect system in assessment of compensatory stepping behavior during standing and treadmill walking. <i>European Review of Aging and Physical Activity</i> , 2017, 14, 4. | 2.9  | 9         |
| 33 | Old adult fallers display reduced flexibility of arm and trunk movements when challenged with different walking speeds. <i>Gait and Posture</i> , 2017, 52, 280-286.                                | 1.4  | 13        |
| 34 | Resistor-Based Shape Sensor for a Spatial Flexible Manifold. <i>IEEE Sensors Journal</i> , 2017, 17, 46-50.   | 4.7  | 14        |
| 35 | Swing-up regrasping algorithm using energy control. , 2016, , .   |      | 12        |
| 36 | A library for dynamic regrasping methods. , 2016, , .   |      | 0         |

| #  | ARTICLE  | IF   | CITATIONS |
|----|--|------|-----------|
| 37 | A novel data fusion algorithm for low-cost localisation and navigation of autonomous vineyard sprayer robots. <i>Biosystems Engineering</i> , 2016, 146, 133-148.                        | 4.3  | 40        |
| 38 | Robotic Swing-Up Regrasping Manipulation Based on the Impulseâ€“Momentum Approach and cLQR Control. <i>IEEE Transactions on Robotics</i> , 2016, 32, 1079-1090.                          | 10.3 | 18        |
| 39 | Unexpected perturbations training improves balance control and voluntary stepping times in older adults - a double blind randomized control trial. <i>BMC Geriatrics</i> , 2016, 16, 58. | 2.7  | 54        |
| 40 | Minimal Actuation for a Flat Actuated Flexible Manifold. <i>IEEE Transactions on Robotics</i> , 2016, 32, 698-706.   | 10.3 | 9         |
| 41 | A gripper design algorithm for grasping a set of parts in manufacturing lines. <i>Mechanism and Machine Theory</i> , 2016, 105, 1-30.  | 4.5  | 10        |
| 42 | Kinematics for an Actuated Flexible n-Manifold. <i>Journal of Mechanisms and Robotics</i> , 2016, 8, .   | 2.2  | 11        |
| 43 | Output feedback control of Micro Aerial Vehicle in indoor environment. , 2015, , .   |      | 1         |
| 44 | Automatic design algorithm of a robotic end-effector for a set of sheet-metal parts. , 2015, , .   |      | 1         |
| 45 | A stochastic dynamic motion planning algorithm for object-throwing. , 2015, , .  |      | 11        |
| 46 | Form-shaping function theory expansion: stiffness model of multi-axis machines. <i>International Journal of Advanced Manufacturing Technology</i> , 2015, 76, 1063-1078.                 | 3.0  | 6         |
| 47 | Quadrotor with a Dihedral Angle: on the Effects of Tilting the Rotors Inwards. <i>Journal of Intelligent and Robotic Systems: Theory and Applications</i> , 2015, 80, 313-324.           | 3.4  | 24        |
| 48 | Age-related differences in pelvic and trunk motion and gait adaptability at different walking speeds. <i>Journal of Electromyography and Kinesiology</i> , 2015, 25, 791-799.            | 1.7  | 27        |
| 49 | Motion planning for an actuated flexible polyhedron manifold. <i>Advanced Robotics</i> , 2015, 29, 1195-1203.  | 1.8  | 6         |
| 50 | CROPS: Clever Robots for Crops. <i>Engineering &amp; Technology Reference</i> , 2015, , .  | 0.1  | 7         |
| 51 | Time-based RRT algorithm for rendezvous planning of two dynamic systems. , 2014, , .   |      | 15        |
| 52 | Robust Nonlinear H $\infty$ Output-Feedback for Spacecraft Attitude Control. , 2014, , .   |      | 2         |
| 53 | OCOG: A common grasp computation algorithm for a set of planar objects. <i>Robotics and Computer-Integrated Manufacturing</i> , 2014, 30, 124-141.                                       | 9.9  | 6         |
| 54 | SpiderBot: a cable-suspended walking robot. <i>Mechanism and Machine Theory</i> , 2014, 82, 56-70.   | 4.5  | 13        |

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|----|---|-----|-----------|
| 55 | A Novel Design of a Quadruped Robot for Research Purposes. International Journal of Advanced Robotic Systems, 2014, 11, 95.   | 2.1 | 12        |
| 56 | The DARPA virtual robotics challenge experience. , 2013, , .  |     | 2         |
| 57 | Spacecraft Attitude Control using Nonlinear H-infinity Output-Feedback. , 2013, , .   |     | 2         |
| 58 | On the mechanics of natural compliance in frictional contacts and its effect on grasp stiffness and stability. International Journal of Robotics Research, 2013, 32, 425-445.       | 8.5 | 6         |
| 59 | Robust position control of a pneumatic actuator. , 2013, , .  |     | 3         |
| 60 | A combined potential function and graph search approach for free gait generation of quadruped robots. , 2012, , .   |     | 8         |
| 61 | A common 3-finger grasp search algorithm for a set of planar objects. , 2012, , .   |     | 6         |
| 62 | Design and motion planning of an autonomous climbing robot with claws. Robotics and Autonomous Systems, 2011, 59, 1008-1019.  | 5.1 | 99        |
| 63 | Biomechanical energy harvesting from human motion: theory, state of the art, design guidelines, and future directions. Journal of NeuroEngineering and Rehabilitation, 2011, 8, 22. | 4.6 | 258       |
| 64 | Dual-tracked mobile robot for motion in challenging terrains. Journal of Field Robotics, 2011, 28, 769-791.   | 6.0 | 7         |
| 65 | Classifying the Heterogeneous Multi-Robot online search problem into quadratic time competitive complexity class. , 2011, , .   |     | 0         |
| 66 | SpiderBot: A cable suspended mobile robot. , 2011, , .  |     | 5         |
| 67 | Grasping of Deformable Objects Applied to Organic Produce. Lecture Notes in Computer Science, 2011, , 396-397.  | 1.3 | 1         |
| 68 | Grape clusters and foliage detection algorithms for autonomous selective vineyard sprayer. Intelligent Service Robotics, 2010, 3, 233-243.  | 2.6 | 116       |
| 69 | Balance perturbation system to improve balance compensatory responses during walking in old persons. Journal of NeuroEngineering and Rehabilitation, 2010, 7, 32.                   | 4.6 | 47        |
| 70 | On the Passive Force Closure Set of Planar Grasps and Fixtures. International Journal of Robotics Research, 2010, 29, 1435-1454.  | 8.5 | 13        |
| 71 | A time competitive heterogeneous multi robot path finding algorithm. , 2010, , .  |     | 1         |
| 72 | Physical Modeling of a Bag Knot in a Robot Learning System. IEEE Transactions on Automation Science and Engineering, 2010, 7, 172-177.  | 5.2 | 4         |

| #  | ARTICLE  | IF  | CITATIONS |
|----|--|-----|-----------|
| 73 | Motion planning algorithm for a mobile robot suspended by seven cables. , 2010, , .  |     | 6         |
| 74 | Motion analysis of an underconstrained cable suspended mobile robot. , 2009, , .   |     | 5         |
| 75 | Toward elevated agrobotics: Development of a scaled-down prototype for visually guided date palm tree sprayer. Journal of Field Robotics, 2009, 26, 572-590.                                       | 6.0 | 18        |
| 76 | Editorial: Annals of Mathematics and Artificial Intelligence special issue on multi-robot coverage, search, and exploration. Annals of Mathematics and Artificial Intelligence, 2008, 52, 107-108. | 1.3 | 0         |
| 77 | Classifying the multi robot path finding problem into a quadratic competitive complexity class. Annals of Mathematics and Artificial Intelligence, 2008, 52, 169-203.                              | 1.3 | 1         |
| 78 | Slippery Model for a Semi-Passive Mobile Platform Subject to External Wrenches. , 2008, , .  |     | 0         |
| 79 | A Robotic Prototype for Spraying and Pollinating Date Palm Trees. , 2008, , .  |     | 2         |
| 80 | A dynamic single actuator vertical climbing robot. , 2007, , .   |     | 16        |
| 81 | Frictional Compliance Model Development and Experiments for Snake Robot Climbing. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .                                | 0.0 | 16        |
| 82 | MRBUG: A Competitive Multi-Robot Path Finding Algorithm. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .   | 0.0 | 7         |
| 83 | Design and Locomotion of a Semi-passive Mobile Platform. , 2006, , 319-330.  |     | 1         |
| 84 | Design and Locomotion of a Semi-passive Mobile Platform. , 2006, , 319-330.  |     | 0         |
| 85 | Stability of Second-Order Asymmetric Linear Mechanical Systems With Application to Robot Grasping. Journal of Applied Mechanics, Transactions ASME, 2005, 72, 966-968.                             | 2.2 | 6         |
| 86 | On the mechanics of natural compliance in frictional contacts and its effect on grasp stiffness and stability. , 2004, , .   |     | 7         |
| 87 | Design of a Quadruped Robot for Motion with Quasistatic Force Constraints. Autonomous Robots, 2001, 10, 279-296.   | 4.8 | 10        |
| 88 | Design of a Spider Robot Based on Second-Order Immobilization Theory. , 2000, , 17-25.   |     | 4         |
| 89 | Immobilization based control of spider robots in tunnels environment. , 0, , .   |     | 4         |
| 90 | Passive force closure and its computation in compliant-rigid grasps. , 0, , .  |     | 12        |

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|----|--|----|-----------|
| 91 | MRSAM: a quadratically competitive multi-robot online navigation algorithm. , 0, , . |    | 4         |