Mark H Yim

List of Publications by Year
in descending order

72 papers	2,140 citations	687363 13 h-index	526287 27 g-index
72 all docs	72 docs citations	72 times ranked	1312 citing authors

#	Article	IF	Citations
1	Modular Self-Reconfigurable Robot Systems [Grand Challenges of Robotics]. IEEE Robotics and Automation Magazine, 2007, 14, 43-52.	2.0	851
2	Emulating self-reconfigurable robots - design of the SMORES system. , 2012, , .		122
3	Automatic Configuration Recognition Methods in Modular Robots. International Journal of Robotics Research, 2008, 27, 403-421.	8.5	90
4	Anticogging: Torque ripple suppression, modeling, and parameter selection. International Journal of Robotics Research, 2016, 35, 148-160.	8.5	77
5	Modular Reconfigurable Robotics. Annual Review of Control, Robotics, and Autonomous Systems, 2019, 2, 63-88.	11.8	76
6	Towards robotic self-reassembly after explosion. , 2007, , .		71
7	<title>Self-reconfiguration planning for a class of modular robots</title>. , 1999, , .		61
8	Automated Self-Assembly of Large Maritime Structures by a Team of Robotic Boats. IEEE Transactions on Automation Science and Engineering, 2015, 12, 958-968.	5.2	61
9	An integrated system for perception-driven autonomy with modular robots. Science Robotics, 2018, 3, .	17.6	59
10	A Distributed Reconfiguration Planning Algorithm for Modular Robots. IEEE Robotics and Automation Letters, 2019, 4, 4231-4238.	5.1	37
11	Design and characterization of the EP-Face connector. , 2016, , .		33
12	Experimental investigations into the role of passive variable compliant legs for dynamic robotic locomotion. , 2011, , .		32
13	Factory floor: A robotically reconfigurable construction platform. , 2010, , .		28
14	Self-assembly of a swarm of autonomous boats into floating structures. , 2014, , .		28
15	Scalable modular self-reconfigurable robots using external actuation. , 2007, , .		25
16	Variable topology truss: Design and analysis. , 2017, , .		24
17	An End-To-End System for Accomplishing Tasks with Modular Robots. , 0, , .		23
18	Assembly planning for planar structures of a brick wall pattern with rectangular modular robots. , 2013, , .		22

#	Article	IF	Citations
19	Assembly sequence planning for constructing planar structures with rectangular modules. , 2016, , .		19
20	A theory on grasping objects using effectors with curved contact surfaces and its application to whole-arm grasping. International Journal of Robotics Research, 2016, 35, 1080-1102.	8.5	19
21	ModLock: A manual connector for reconfigurable modular robots. , 2012, , .		17
22	Optimization-Based Nonimpact Rolling Locomotion of a Variable Geometry Truss. IEEE Robotics and Automation Letters, 2019, 4, 747-752.	5.1	17
23	An End-to-End System for Accomplishing Tasks with Modular Robots: Perspectives for the AI community. , 2017, , .		17
24	Robotic Edge-Rolling Manipulation: A Grasp Planning Approach. IEEE Robotics and Automation Letters, 2018, 3, 3137-3144.	5.1	15
25	Object Picking Through In-Hand Manipulation Using Passive End-Effectors With Zero Mobility. IEEE Robotics and Automation Letters, 2018, 3, 1096-1103.	5.1	14
26	A general stiffness model for programmable matter and modular robotic structures. Robotica, 2011, 29, 103-121.	1.9	13
27	Passive stability of a single actuator micro aerial vehicle. , 2014, , .		13
28	Area of acceptance for 3D self-aligning robotic connectors: Concepts, metrics, and designs. , 2014, , .		13
29	Towards a variable topology truss for shoring. , 2017, , .		13
30	Accomplishing high-level tasks with modular robots. Autonomous Robots, 2018, 42, 1337-1354.	4.8	13
31	Task and Design Requirements for an Affordable Mobile Service Robot for Elder Care in an All-Inclusive Care for Elders Assisted-Living Setting. International Journal of Social Robotics, 2020, 12, 989-1008.	4.6	13
32	Using Smart Cameras to Localize Self-Assembling Modular Robots. , 2007, , .		11
33	A Fast Configuration Space Algorithm for Variable Topology Truss Modular Robots. , 2020, , .		11
34	Kinodynamic motion planning with hardware demonstrations. , 2008, , .		10
35	Towards Small Robot Aided Victim Manipulation. Journal of Intelligent and Robotic Systems: Theory and Applications, 2011, 64, 119-139.	3.4	10
36	The X-Face: An improved planar passive mechanical connector for modular self-reconfigurable robots. , 2012, , .		10

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37	Topological Reconfiguration Planning for a Variable Topology Truss. Journal of Mechanisms and Robotics, 2021, 13, .	2.2	10
38	Strength analysis of miniature folded right angle tetrahedron chain Programmable Matter. , 2010, , .		9
39	Motion Planning for Variable Topology Truss Modular Robot. , 0, , .		9
40	Design, principles, and testing of a latching modular robot connector. , 2014, , .		8
41	Modular robot connector area of acceptance from configuration space obstacles. , 2017, , .		8
42	Reconfiguration Motion Planning for Variable Topology Truss. , 2019, , .		8
43	Dynamic Grasping for Object Picking Using Passive Zero-DOF End-Effectors. IEEE Robotics and Automation Letters, 2021, 6, 3089-3096.	5.1	8
44	Towards the development of gyroscopically controlled micro air vehicles. , 2011, , .		7
45	Dielectric elastomer bender actuator applied to modular robotics. , 2011, , .		7
46	Reconfiguration Solution of a Variable Topology Truss: Design and Experiment. IEEE Robotics and Automation Letters, 2020, 5, 1939-1945.	5.1	7
47	Polygon-Based Random Tree Search Planning for Variable Geometry Truss Robot. IEEE Robotics and Automation Letters, 2020, 5, 813-819.	5.1	7
48	Docking and Undocking a Modular Underactuated Oscillating Swimming Robot. , 2021, , .		7
49	Actuation mechanisms for biologically inspired everting toroidal robots. , 2010, , .		6
50	Spiral Zipper Manipulator for Aerial Grasping and Manipulation. , 2019, , .		6
51	Pauses Provide Effective Control for an Underactuated Oscillating Swimming Robot. IEEE Robotics and Automation Letters, 2020, 5, 5075-5080.	5.1	6
52	Brake design for dynamic modular robots. , 2010, , .		5
53	Passive stability of vehicles without angular momentum including quadrotors and ornithopters. , 2015, , .		5
54	On embeddability of modular robot designs. , 2015, , .		5

#	Article	IF	Citations
55	PaintPots: Low cost, accurate, highly customizable potentiometers for position sensing. , 2017, , .		5
56	A Low-Cost, Highly Customizable Solution for Position Estimation in Modular Robots. Journal of Mechanisms and Robotics, 2021, 13, .	2.2	5
57	Quori: A Community-Informed Design of a Socially Interactive Humanoid Robot. IEEE Transactions on Robotics, 2022, 38, 1755-1772.	10.3	5
58	A Quadratic Programming Approach to Modular Robot Control and Motion Planning. , 2020, , .		5
59	Thrust Direction Control of an Underactuated Oscillating Swimming Robot. , 2021, , .		5
60	Microfabricated Foldable Wings for Centimeter-Scale Microflyers. Journal of Microelectromechanical Systems, 2020, 29, 1127-1129.	2.5	4
61	A Linking Invariant for Truss Robot Motion Planning. IEEE Robotics and Automation Letters, 2022, 7, 1424-1430.	5.1	3
62	Finding Structure Configurations for Flying Modular Robots. , 2021, , .		3
63	Design and Analysis of a Gyroscopically Controlled Micro Air Vehicle. Journal of Intelligent and Robotic Systems: Theory and Applications, 2012, 65, 417-435.	3.4	2
64	Optimal Structure Synthesis for Environment Augmenting Robots. IEEE Robotics and Automation Letters, 2019, 4, 1069-1076.	5.1	2
65	Did you see it hesitate? - empirically grounded design of hesitation trajectories for collaborative robots. , 2011, , .		1
66	Discrete Configuration Space Methods for Determining Modular Connector Area of Acceptance in Higher Dimensions. , 2018, , .		1
67	Polygon-Based Random Tree Search Algorithm for a Size-Changing Robot. IEEE Robotics and Automation Letters, 2022, 7, 8100-8105.	5.1	1
68	Slip Modeling and Simulation of Spiral Zipper Friction-Driven Prismatic Actuator. , 2021, , .		1
69	Amplitude Control for Parallel Lattices of Docked Modboats. , 2022, , .		1
70	Kinematics of variable topology truss using affine coordinate transformation. , 2017, , .		0
71	Carbon fiberâ€"aluminum sandwich for micro-aerial vehicles and miniature robots. MRS Advances, 2021, 6, 477-481.	0.9	0
72	Simulation Study on the Locomotion Algorithm of Variable Topology Truss Robot based on Motion Primitives. , 2022, , .		0