

Elon D Rimon

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/6353158/publications.pdf>

Version: 2024-02-01

70
papers

2,125
citations

430874

18
h-index

265206

42
g-index

77
all docs

77
docs citations

77
times ranked

1118
citing authors

#	ARTICLE	IF	CITATIONS
1	Robot navigation functions on manifolds with boundary. <i>Advances in Applied Mathematics</i> , 1990, 11, 412-442.	0.7	450
2	Spanning-tree based coverage of continuous areas by a mobile robot. <i>Annals of Mathematics and Artificial Intelligence</i> , 2001, 31, 77-98.	1.3	245
3	Mobility of bodies in contact. I. A 2nd-order mobility index for multiple-finger grasps. <i>IEEE Transactions on Automation Science and Engineering</i> , 1998, 14, 696-708.	2.3	161
4	TangentBug: A Range-Sensor-Based Navigation Algorithm. <i>International Journal of Robotics Research</i> , 1998, 17, 934-953.	8.5	146
5	Competitive on-line coverage of grid environments by a mobile robot. <i>Computational Geometry: Theory and Applications</i> , 2003, 24, 197-224.	0.5	113
6	The construction of analytic diffeomorphisms for exact robot navigation on star worlds. <i>Transactions of the American Mathematical Society</i> , 1991, 327, 71-116.	0.9	79
7	Obstacle Collision Detection Using Best Ellipsoid Fit. , 1997, 18, 105-126.		78
8	Mobility of bodies in contact. II. How forces are generated by curvature effects. <i>IEEE Transactions on Automation Science and Engineering</i> , 1998, 14, 709-717.	2.3	62
9	A stiffness-based quality measure for compliant grasps and fixtures. <i>IEEE Transactions on Automation Science and Engineering</i> , 2000, 16, 675-688.	2.3	58
10	A configuration space analysis of bodies in contactâ€™I. 1st order mobility. <i>Mechanism and Machine Theory</i> , 1995, 30, 897-912.	4.5	53
11	Online Coverage of Planar Environments by a Battery Powered Autonomous Mobile Robot. <i>IEEE Transactions on Automation Science and Engineering</i> , 2016, 13, 425-436.	5.2	42
12	Online Coverage by a Tethered Autonomous Mobile Robot in Planar Unknown Environments. <i>IEEE Transactions on Robotics</i> , 2014, 30, 966-974.	10.3	30
13	Efficient and safe on-line motion planning in dynamic environments. , 2009, , .		29
14	Immobilizing 2-D Serial Chains in Form-Closure Grasps. <i>IEEE Transactions on Robotics</i> , 2012, 28, 32-43.	10.3	29
15	Investigation of PainlevÃ©â€™s paradox and dynamic jamming during mechanism sliding motion. <i>Nonlinear Dynamics</i> , 2012, 67, 1647-1668.	5.2	29
16	A configuration space analysis of bodies in contactâ€™II. 2ND order mobility. <i>Mechanism and Machine Theory</i> , 1995, 30, 913-928.	4.5	26
17	Two-Finger Caging of Polygonal Objects Using Contact Space Search. <i>IEEE Transactions on Robotics</i> , 2015, 31, 1164-1179.	10.3	25
18	Construction of C-space roadmaps from local sensory data. What should the sensors look for?. <i>Algorithmica</i> , 1997, 17, 357-379.	1.3	23

#	ARTICLE	IF	CITATIONS
19	CBUG: A Quadratically Competitive Mobile Robot Navigation Algorithm. IEEE Transactions on Robotics, 2008, 24, 1451-1457.	10.3	20
20	Time Optimal Trajectories for a Mobile Robot Under Explicit Acceleration Constraints. IEEE Transactions on Aerospace and Electronic Systems, 2018, 54, 2220-2232.	4.7	18
21	IMMOBILIZING HINGED POLYGONS. International Journal of Computational Geometry and Applications, 2007, 17, 45-69.	0.5	17
22	Computation and Graphical Characterization of Robust Multiple-Contact Postures in Two-Dimensional Gravitational Environments. International Journal of Robotics Research, 2006, 25, 1071-1086.	8.5	14
23	Online Robot Navigation Using Continuously Updated Artificial Temperature Gradients. IEEE Robotics and Automation Letters, 2017, 2, 1280-1287.	5.1	14
24	On the Passive Force Closure Set of Planar Grasps and Fixtures. International Journal of Robotics Research, 2010, 29, 1435-1454.	8.5	13
25	Two-fingered caging of polygons via contact-space graph search. , 2012, , .		12
26	On the hybrid dynamics of planar mechanisms supported by frictional contacts. II: stability of two-contact rigid body postures. , 2008, , .		11
27	Isometric visualization of configuration spaces of two-degrees-of-freedom mechanisms. Mechanism and Machine Theory, 2001, 36, 523-545.	4.5	10
28	Design of a Quadruped Robot for Motion with Quasistatic Force Constraints. Autonomous Robots, 2001, 10, 279-296.	4.8	10
29	Jamming-Free Immobilizing Grasps Using Dual-Friction Robotic Fingertips. IEEE Robotics and Automation Letters, 2020, 5, 2889-2896.	5.1	10
30	Analytic Characterization of a Class of Three-contact Frictional Equilibrium Postures in Three-dimensional Gravitational Environments. International Journal of Robotics Research, 2010, 29, 3-22.	8.5	9
31	Equilateral Three-Finger Caging of Polygonal Objects Using Contact Space Search. IEEE Transactions on Automation Science and Engineering, 2018, 15, 919-931.	5.2	9
32	Mobile Robot Navigation Functions Tuned by Sensor Readings in Partially Known Environments. IEEE Robotics and Automation Letters, 2022, 7, 3803-3810.	5.1	9
33	On the hybrid dynamics of planar mechanisms supported by frictional contacts. I: necessary conditions for stability. , 2008, , .		8
34	Caging Polygonal Objects Using Formationally Similar Three-Finger Hands. IEEE Robotics and Automation Letters, 2018, 3, 3271-3278.	5.1	8
35	Local Force Closure. , 2012, , .		7
36	Caging Polygonal Objects Using Equilateral Three-Finger Hands. IEEE Robotics and Automation Letters, 2017, 2, 1672-1679.	5.1	7

#	ARTICLE	IF	CITATIONS
37	Characterization of frictional multi-legged equilibrium postures on uneven terrains. International Journal of Robotics Research, 2017, 36, 105-128.	8.5	7
38	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
39	Robust three-finger three-parameter caging of convex polygons. , 2015, , .		6
40	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
41	Time Optimal Trajectories for a Car-Like Mobile Robot. IEEE Transactions on Robotics, 2022, 38, 421-432.	10.3	5
42	Contact Space Computation of Two-Finger Gravity Based Caging Grasps Security Measure. IEEE Robotics and Automation Letters, 2021, 6, 572-579.	5.1	5
43	On-line Coverage of Planar Environments by a Battery Powered Autonomous Mobile Robot. Springer Tracts in Advanced Robotics, 2015, , 571-589.	0.4	5
44	Online Coverage by a Tethered Autonomous Mobile Robot in Planar Unknown Environments. , 0, , .		5
45	COMPETITIVE COMPLEXITY OF MOBILE ROBOT ON-LINE MOTION PLANNING PROBLEMS. International Journal of Computational Geometry and Applications, 2010, 20, 255-283.	0.5	4
46	Two-finger caging of 3D polyhedra using contact space search. , 2014, , .		4
47	The speed graph method: Time optimal navigation among obstacles subject to safe braking constraint. , 2014, , .		4
48	Geometric Characterization of Two-Finger Basket Grasps of 2-D Objects: Contact Space Formulation. , 2020, , .		4
49	Design of a Spider Robot Based on Second-Order Immobilization Theory. , 2000, , 17-25.		4
50	Local and Global Planning in Sensor Based Navigation of Mobile Robots. , 1998, , 112-123.		4
51	Experimental Verification and Graphical Characterization of Dynamic Jamming in Frictional Rigid-Body Mechanics. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	3
52	VC-method: high-speed navigation of a uniformly braking mobile robot using position-velocity configuration space. Autonomous Robots, 2013, 34, 295-309.	4.8	3
53	Investigation of the Coin Snapping Phenomenon in Linearly Compliant Robot Grasps. IEEE Transactions on Robotics, 2018, 34, 794-804.	10.3	3
54	Time Optimal Trajectories for a Mobile Robot Under Nonsliding and Radius-of-Turn Constraints. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2020, 142, .	1.6	3

#	ARTICLE	IF	CITATIONS
55	Safe Navigation in Dynamic Environments. CISM International Centre for Mechanical Sciences, Courses and Lectures, 2010, , 225-232.	0.6	2
56	Wrench resistant multi-finger hand mechanisms. , 2016, , .		2
57	Object surface exploration using low-cost rolling robotic fingertips. , 2018, , .		2
58	Toward Grasping Against the Environment: Locking Polygonal Objects Against a Wall Using Two-Finger Robot Hands. IEEE Robotics and Automation Letters, 2019, 4, 105-112.	5.1	2
59	Competitive Disconnection Detection in On-Line Mobile Robot Navigation. Springer Tracts in Advanced Robotics, 2008, , 253-267.	0.4	2
60	Geometric Characterization and Experimental Validation of Frictional 3-Contact Equilibrium Stances in Three-Dimensions. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	1
61	C-space characterization of contact preserving paths with application to tactile-sensor based mobile robot navigation. , 2008, , .		1
62	Immobilizing 2D serial chains in form closure grasps. , 2010, , .		0
63	Classifying the Heterogeneous Multi-Robot online search problem into quadratic time competitive complexity class. , 2011, , .		0
64	High-speed navigation of a uniformly braking mobile robot using position-velocity configuration space. , 2012, , .		0
65	The speed graph method: pseudo time optimal navigation among obstacles subject to uniform braking safety constraints. Autonomous Robots, 2017, 41, 385-400.	4.8	0
66	First-Order Immobilizing Grasps. , 2019, , 147-166.		0
67	Multi-Finger Caging Grasps. , 2019, , 232-255.		0
68	Hand Mechanism Compliance. , 2019, , 454-477.		0
69	Geometric Characterization of the Planar Multi-Finger Equilibrium Grasps. IEEE Robotics and Automation Letters, 2021, 6, 7933-7940.	5.1	0
70	Online Scan Coverage of Grid Environments by a Mobile Robot. Springer Tracts in Advanced Robotics, 2004, , 417-433.	0.4	0