David J Cappelleri

List of Publications by Year
in descending order

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68 papers	1,399 citations	361413 20 h-index	377865 34 g-index
69 all docs	69 docs citations	69 times ranked	1186 citing authors

#	Article	IF	Citations
1	Modular End-Effector System for Autonomous Robotic Maintenance & Repair. , 2022, , .		5
2	P-AgBot: In-Row & Under-Canopy Agricultural Robot for Monitoring and Physical Sampling. IEEE Robotics and Automation Letters, 2022, 7, 7942-7949.	5.1	3
3	Smart Polymers for Microscale Machines. Advanced Functional Materials, 2021, 31, 2007125.	14.9	48
4	Magnetic Actuation Methods in Bio/Soft Robotics. Advanced Functional Materials, 2021, 31, 2005137.	14.9	126
5	4D Printing: Enabling Technology for Microrobotics Applications. Advanced Intelligent Systems, 2021, 3, 2000216.	6.1	43
6	Dynamic Simulation-Guided Design of Tumbling Magnetic Microrobots. Journal of Mechanisms and Robotics, 2021, 13, .	2.2	2
7	Towards a Comprehensive and Robust Micromanipulation System with Force-Sensing and VR Capabilities. Micromachines, 2021, 12, 784.	2.9	7
8	Soft Capsule Magnetic Millirobots for Region-Specific Drug Delivery in the Central Nervous System. Frontiers in Robotics and AI, 2021, 8, 702566.	3.2	10
9	Going Hands-Free: MagnetoSutureâ„¢ for Untethered Guided Needle Penetration of Human Tissue Ex Vivo. Robotics, 2021, 10, 129.	3.5	2
10	Modeling of Bilayer Hydrogel Springs for Microrobots with Adaptive Locomotion. , 2021, , .		2
11	A Tumbling Magnetic Microrobot System for Biomedical Applications. Micromachines, 2020, 11, 861.	2.9	26
12	Design of the muMAZE Platform and Microrobots for Independent Control and Micromanipulation Tasks. IEEE Robotics and Automation Letters, 2020, 5, 5677-5684.	5.1	10
13	Pose-Estimate-Based Target Tracking for Human-Guided Remote Sensor Mounting with a UAV. , 2020, , .		3
14	3Dâ€Printed Microrobots with Integrated Structural Color for Identification and Tracking. Advanced Intelligent Systems, 2020, 2, 1900147.	6.1	32
15	3Dâ€Printed Microrobots with Integrated Structural Color for Identification and Tracking. Advanced Intelligent Systems, 2020, 2, 2070052.	6.1	2
16	Towards a real-time 3D vision-based micro-force sensing probe. Journal of Micro-Bio Robotics, 2020, 16, 23-32.	2.1	7
17	Local Magnetic Field Design and Characterization for Independent Closed-Loop Control of Multiple Mobile Microrobots. IEEE/ASME Transactions on Mechatronics, 2020, 25, 526-534.	5.8	26
18	Automated Complete Blood Cell Count and Malaria Pathogen Detection Using Convolution Neural Network. IEEE Robotics and Automation Letters, 2020, 5, 1047-1054.	5.1	22

#	Article	IF	Citations
19	Stiffness Characterization and Micromanipulation for Biomedical Applications using the Vision-based Force-Sensing Magnetic Mobile Microrobot. , 2020, , .		5
20	Autonomous Door Opening With the Interacting-BoomCopter Unmanned Aerial Vehicle. Journal of Mechanisms and Robotics, 2020, 12, .	2.2	5
21	A Microforce-Sensing Mobile Microrobot for Automated Micromanipulation Tasks. IEEE Transactions on Automation Science and Engineering, 2019, 16, 518-530.	5.2	47
22	Towards Functional Mobile Microrobotic Systems. Robotics, 2019, 8, 69.	3.5	20
23	Design of Compliant Three-Dimensional Printed Surgical End-Effectors for Robotic Lumbar Discectomy. Journal of Mechanisms and Robotics, 2019, 11, .	2.2	2
24	Magnetically Aligned Nanorods in Alginate Capsules (MANiACs): Soft Matter Tumbling Robots for Manipulation and Drug Delivery. Micromachines, 2019, 10, 230.	2.9	19
25	Tumbling Magnetic Microrobots for Biomedical Applications. , 2019, , .		6
26	Design of a 3D Vision-based Micro-Force Sensing Probe. , 2019, , .		2
27	Modeling, Control and Planning for Multiple Mobile Microrobots. , 2019, , .		1
28	Design of the Interacting-BoomCopter Unmanned Aerial Vehicle for Remote Sensor Mounting. Journal of Mechanisms and Robotics, 2018, 10, .	2.2	11
29	Autonomous Control of the Interacting-BoomCopter UAV for Remote Sensor Mounting. , 2018, , .		13
30	Real-Time Force-Feedback Micromanipulation Using Mobile Microrobots With Colored Fiducials. IEEE Robotics and Automation Letters, 2018, 3, 3591-3597.	5.1	15
31	Design of Microscale Magnetic Tumbling Robots for Locomotion in Multiple Environments and Complex Terrains. Micromachines, 2018, 9, 68.	2.9	62
32	Path Planning and Micromanipulation Using a Learned Model. IEEE Robotics and Automation Letters, 2018, 3, 3089-3096.	5.1	12
33	Control of Magnetic Microrobot Teams for Temporal Micromanipulation Tasks. IEEE Transactions on Robotics, 2018, 34, 1472-1489.	10.3	38
34	Tumbling Microrobots for Future Medicine. American Scientist, 2018, 106, 210.	0.1	4
35	High-accuracy, high-speed 3D structured light imaging techniques and potential applications to intelligent robotics. International Journal of Intelligent Robotics and Applications, 2017, 1, 86-103.	2.8	66
36	Designing local magnetic fields and path planning for independent actuation of multiple mobile microrobots. Journal of Micro-Bio Robotics, 2017, 12, 21-31.	2.1	34

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37	Magnetic mobile microrobots for mechanobiology and automated biomanipulation. , 2017, , 197-219.		4
38	Design of the I-BoomCopter UAV for environmental interaction. , 2017, , .		15
39	Design of the I-BoomCopter UAV for Remote Sensor Mounting. , 2017, , .		0
40	Development of an Automated Flexible Micro-Soldering Station. , 2017, , .		3
41	Towards Independent Control of Multiple Magnetic Mobile Microrobots. Micromachines, 2016, 7, 3.	2.9	45
42	Automated Microassembly Sequence Planning With Sub-Assemblies. , 2016, , .		3
43	Independent actuation of multiple microrobots using localized magnetic fields. , 2016, , .		4
44	Path Planning and Control for Autonomous Navigation of Single and Multiple Magnetic Mobile Microrobots. , 2015, , .		9
45	Controlling multiple microrobots: recent progress and future challenges. Journal of Micro-Bio Robotics, 2015, 10, 1-11.	2.1	81
46	A Magnetic Microrobot with in situ Force Sensing Capabilities. Robotics, 2014, 3, 106-119.	3.5	22
47	A Novel Micro Aerial Vehicle Design: The Evolution of the Omnicopter MAV. , 2014, , .		5
48	Incorporating in-situ force sensing capabilities in a magnetic microrobot. , 2014, , .		8
49	Modeling and global trajectory tracking control for an over-actuated MAV. Advanced Robotics, 2014, 28, 145-155.	1.8	30
50	Towards Mobile Microrobot Swarms for Additive Micromanufacturing. International Journal of Advanced Robotic Systems, 2014, 11, 150.	2.1	58
51	A novel micro-scale magnetic tumbling microrobot. Journal of Micro-Bio Robotics, 2013, 8, 1-12.	2.1	49
52	Linear control design, allocation, and implementation for the Omnicopter MAV. , 2013, , .		18
53	Towards flexible, automated microassembly with caging micromanipulation. , 2013, , .		13
54	Complete dynamic modeling, control and optimization for an over-actuated MAV. , 2013, , .		4

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55	A tumbling magnetic microrobot with flexible operating modes. , 2013, , .		16
56	Cooperative Micromanipulators for 3D Micromanipulation and Assembly. , 2012, , .		5
57	A Micro-Scale Magnetic Tumbling Microrobot. , 2012, , .		6
58	Caging for 2D and 3D micromanipulation. Journal of Micro-Nano Mechatronics, 2012, 7, 115-129.	1.0	13
59	Caging grasps for micromanipulation & microassembly. , 2011, , .		9
60	Automated Assembly for Mesoscale Parts. IEEE Transactions on Automation Science and Engineering, 2011, 8, 598-613.	5.2	30
61	A magnetic thin film microrobot with two operating modes. , 2011, , .		21
62	A two dimensional vision-based force sensor for microrobotic applications. Sensors and Actuators A: Physical, 2011, 171, 340-351.	4.1	48
63	Caging micromanipulation for automated microassembly. , 2011, , .		22
64	Caging grasps for micromanipulation & microassembly. , 2011, , .		2
65	Toward the Design of a Decoupled, Two-Dimensional, Vision-Based Î¼N Force Sensor. Journal of Mechanisms and Robotics, 2010, 2, .	2.2	21
66	Toward a Fully Automated High-Throughput Phototransfection System. Journal of the Association for Laboratory Automation, 2010, 15, 329-341.	2.8	8
67	Transcriptome transfer produces a predictable cellular phenotype. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 7624-7629.	7.1	86
68	Towards fully automated phototransfection. , 2009, , .		0