Sang-Joon Ahn

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/8137553/publications.pdf

Version: 2024-02-01

100	5,424	147566	102304
papers	citations	31 h-index	66 g-index

103	103	103	5110
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Meshworm: A Peristaltic Soft Robot With Antagonistic Nickel Titanium Coil Actuators. IEEE/ASME Transactions on Mechatronics, 2013, 18, 1485-1497.	3.7	536
2	Exo-Glove: A Wearable Robot for the Hand with a Soft Tendon Routing System. IEEE Robotics and Automation Magazine, 2015, 22, 97-105.	2.2	351
3	Hygrobot: A self-locomotive ratcheted actuator powered by environmental humidity. Science Robotics, 2018, 3, .	9.9	307
4	Jumping on water: Surface tensionâ€“dominated jumping of water striders and robotic insects. Science, 2015, 349, 517-521.	6.0	306
5	Review of biomimetic underwater robots using smart actuators. International Journal of Precision Engineering and Manufacturing, 2012, 13, 1281-1292.	1.1	291
6	Stretchable and Transparent Kirigami Conductor of Nanowire Percolation Network for Electronic Skin Applications. Nano Letters, 2019, 19, 6087-6096.	4.5	276
7	Review of manufacturing processes for soft biomimetic robots. International Journal of Precision Engineering and Manufacturing, 2009, 10, 171-181.	1.1	236
8	Flea-Inspired Catapult Mechanism for Miniature Jumping Robots. IEEE Transactions on Robotics, 2012, 28, 1007-1018.	7.3	202
9	Biomimetic Color Changing Anisotropic Soft Actuators with Integrated Metal Nanowire Percolation Network Transparent Heaters for Soft Robotics. Advanced Functional Materials, 2018, 28, 1801847.	7.8	198
10	Electronic skins for soft, compact, reversible assembly of wirelessly activated fully soft robots. Science Robotics, 2018, 3, .	9.9	176
11	An origami-inspired, self-locking robotic arm that can be folded flat. Science Robotics, 2018, 3, .	9.9	166
12	Exo-Glove Poly II: A Polymer-Based Soft Wearable Robot for the Hand with a Tendon-Driven Actuation System. Soft Robotics, 2019, 6, 214-227.	4.6	144
13	Wheel Transformer: A Wheel-Leg Hybrid Robot With Passive Transformable Wheels. IEEE Transactions on Robotics, 2014, 30, 1487-1498.	7.3	136
14	Bioinspired dual-morphing stretchable origami. Science Robotics, 2019, 4, .	9.9	127
15	Review of machine learning methods in soft robotics. PLoS ONE, 2021, 16, e0246102.	1.1	105
16	Origami Wheel Transformer: A Variable-Diameter Wheel Drive Robot Using an Origami Structure. Soft Robotics, 2017, 4, 163-180.	4.6	103
17	Kinematic Condition for Maximizing the Thrust of a Robotic Fish Using a Compliant Caudal Fin. IEEE Transactions on Robotics, 2012, 28, 1216-1227.	7.3	84
18	Ladybird beetleâ€“inspired compliant origami. Science Robotics, 2020, 5, .	9.9	79

#	Article	IF	Citations
19	Design of an Optically Controlled MR-Compatible Active Needle. IEEE Transactions on Robotics, 2015, 31, 1-11.	7.3	77
20	Omegabot : Biomimetic inchworm robot using SMA coil actuator and smart composite microstructures (SCM). , 2009, , .		69
21	Soft Robotic Blocks: Introducing SoBL, a Fast-Build Modularized Design Block. IEEE Robotics and Automation Magazine, 2016, 23, 30-41.	2.2	69
22	Transparent wearable three-dimensional touch by self-generated multiscale structure. Nature Communications, 2019, 10, 2582.	5.8	64
23	Eyes are faster than hands: A soft wearable robot learns user intention from the egocentric view. Science Robotics, 2019, 4, .	9.9	57
24	Interfacing Soft and Hard: A Spring Reinforced Actuator. Soft Robotics, 2020, 7, 44-58.	4.6	51
25	Development and evaluation of a soft wearable weight support device for reducing muscle fatigue on shoulder. PLoS ONE, 2017, 12, e0173730.	1.1	50
26	Deformable wheel robot based on origami structure. , 2013, , .		49
27	Highâ€“load capacity origami transformable wheel. Science Robotics, 2021, 6, .	9.9	47
28	JumpRoACH: A Trajectory-Adjustable Integrated Jumpingâ€“Crawling Robot. IEEE/ASME Transactions on Mechatronics, 2019, 24, 947-958.	3.7	46
29	Directional Shape Morphing Transparent Walking Soft Robot. Soft Robotics, 2019, 6, 760-767.	4.6	45
30	Implementation of various control algorithms for hand rehabilitation exercise using wearable robotic hand. Intelligent Service Robotics, 2013, 6, 181-189.	1.6	43
31	Anisotropic Patterning to Reduce Instability of Concentric-Tube Robots. IEEE Transactions on Robotics, 2015, 31, 1311-1323.	7.3	43
32	Underactuated Adaptive Gripper Using Flexural Buckling. IEEE Transactions on Robotics, 2013, 29, 1396-1407.	7.3	40
33	Flea inspired catapult mechanism with active energy storage and release for small scale jumping robot. , 2013, , .		37
34	Toward a solution to the snapping problem in a concentric-tube continuum robot: Grooved tubes with anisotropy. , 2014, , .		34
35	Design and analysis of a stiffness adjustable structure using an endoskeleton. International Journal of Precision Engineering and Manufacturing, 2012, 13, 1255-1258.	1.1	33
36	Deformable-wheel robot based on soft material. International Journal of Precision Engineering and Manufacturing, 2013, 14, 1439-1445.	1.1	30

#	Article	IF	Citations
37	A Novel Slack-Enabling Tendon Drive That Improves Efficiency, Size, and Safety in Soft Wearable Robots. IEEE/ASME Transactions on Mechatronics, 2017, 22, 59-70.	3.7	30
38	Kinematic analysis and experimental verification on the locomotion of gecko. Journal of Bionic Engineering, 2009, 6, 246-254.	2.7	29
39	Towards a bio-mimetic flytrap robot based on a snap-through mechanism. , 2010, , .		29
40	A passive, origami-inspired, continuously variable transmission. , 2014, , .		29
41	Curvature tailoring of unsymmetric laminates with an initial curvature. Journal of Composite Materials, 2013, 47, 3163-3174.	1.2	25
42	Wheel transformer: A miniaturized terrain adaptive robot with passively transformed wheels. , 2013, , .		25
43	Development and assessment of a hand assist device: GRIPIT. Journal of NeuroEngineering and Rehabilitation, 2017, 14, 15.	2.4	24
44	A Novel Low-Cost, Large Curvature Bend Sensor Based on a Bowden-Cable. Sensors, 2016, 16, 961.	2.1	23
45	Tendon-Driven Jamming Mechanism for Configurable Variable Stiffness. Soft Robotics, 2021, 8, 109-118.	4.6	23
46	Fabrication of origami wheel using pattern embedded fabric and its application to a deformable mobile robot. , 2014, , .		21
47	Control of a Bowden-Cable Actuation System With Embedded BoASensor for Soft Wearable Robots. IEEE Transactions on Industrial Electronics, 2020, 67, 7669-7680.	5.2	21
48	A Positive Pressure Jamming Based Variable Stiffness Structure and its Application on Wearable Robots. IEEE Robotics and Automation Letters, 2021, 6, 8078-8085.	3.3	20
49	Deformable soft wheel robot using hybrid actuation. , 2012, , .		19
50	Morphing Origami Block for Lightweight Reconfigurable System. IEEE Transactions on Robotics, 2021, 37, 494-505.	7.3	19
51	Learning-Based Fingertip Force Estimation for Soft Wearable Hand Robot With Tendon-Sheath Mechanism. IEEE Robotics and Automation Letters, 2020, 5, 946-953.	3.3	18
52	Design of a slider-crank leg mechanism for mobile hopping robotic platforms. Journal of Mechanical Science and Technology, 2013, 27, 207-214.	0.7	17
53	Design & analysis a flytrap robot using bi-stable composite. , 2011, , .		15
54	Dual-stiffness structures with reconfiguring mechanism: Design and investigation. Journal of Intelligent Material Systems and Structures, 2016, 27, 995-1010.	1.4	15

#	Article	IF	Citations
55	Development of a transformable wheel actuated by soft pneumatic actuators. International Journal of Control, Automation and Systems, 2017, 15, 36-44.	1.6	15
56	Finger-sized climbing robot using artificial proleg. , 2010, , .		14
57	Design of a passive brake mechanism for tendon driven devices. International Journal of Precision Engineering and Manufacturing, 2012, 13, 1487-1490.	1.1	14
58	Body-powered variable impedance: An approach to augmenting humans with a passive device by reshaping lifting posture. Science Robotics, 2021, 6, .	9.9	14
59	A Dualâ€Origami Design that Enables the Quasisequential Deployment and Bending Motion of Soft Robots and Grippers. Advanced Intelligent Systems, 2022, 4, .	3.3	14
60	Force characteristics of rolling contact joint for compact structure. , 2016, , .		13
61	Design of deformable-wheeled robot based on origami structure with shape memory alloy coil spring. , 2013, , .		12
62	Transnasal Placement of a Balloon-ExpandableÂMetallic Stent: Human Cadaver StudyÂof the Eustachian Tube. Journal of Vascular and Interventional Radiology, 2018, 29, 1187-1193.	0.2	12
63	Design of a Bioinspired Robotic Hand: Magnetic Synapse Sensor Integration for a Robust Remote Tactile Sensing. IEEE Robotics and Automation Letters, 2018, 3, 3545-3552.	3.3	12
64	Underwater maneuvering of robotic sheets through buoyancy-mediated active flutter. Science Robotics, 2021, 6, .	9.9	12
65	Evaluation of an improved soft meal assistive exoskeleton with an adjustable weight-bearing system for people with disability. , 2015, , .		11
66	Wake and thrust of an angularly reciprocating plate. Journal of Fluid Mechanics, 2013, 720, 545-557.	1.4	10
67	Feasibility study of a slack enabling actuator for actuating tendon-driven soft wearable robot without pretension. , 2015, , .		9
68	Soft LEGO: Bottom-Up Design Platform for Soft Robotics. , 2018, , .		9
69	A Needlescopic Wrist Mechanism With Articulated Motion and Kinematic Tractability for Micro Laparoscopic Surgery. IEEE/ASME Transactions on Mechatronics, 2020, 25, 229-238.	3.7	9
70	The effect of compliant joint and caudal fin in thrust generation for robotic fish. , 2010, , .		8
71	Evaluation of the antagonistic tendon driven system for SNU Exo-Glove. , 2012, , .		8
72	Design Concept of Hybrid Instrument for Laparoscopic Surgery and Its Verification Using Scale Model Test. IEEE/ASME Transactions on Mechatronics, 2015, , 1-1.	3.7	8

#	Article	IF	Citations
73	Loco-sheet: Morphing Inchworm Robot Across Rough-terrain. , 2019, , .		8
74	Joint Angle Estimation of a Tendon-Driven Soft Wearable Robot through a Tension and Stroke Measurement. Sensors, 2020, 20, 2852.	2.1	7
75	Slider-Tendon Linear Actuator With Under-Actuation and Fast-Connection for Soft Wearable Robots. IEEE/ASME Transactions on Mechatronics, 2021, 26, 2932-2943.	3.7	7
76	Anthropomorphic Prosthetic Hand Inspired by Efficient Swing Mechanics for Sports Activities. IEEE/ASME Transactions on Mechatronics, 2022, 27, 1196-1207.	3.7	7
77	Design of the shape memory alloy coil spring actuator for the soft deformable wheel robot. , 2012, , .		6
78	Meso-scale compliant gripper inspired by caterpillar's proleg. , 2011, , .		5
79	Development of soft continuum manipulator with pneumatic and tendon driven actuations. , 2016, , .		5
80	4D Printing of Continuous Shape Representation. Advanced Materials Technologies, 2021, 6, 2100133.	3.0	5
81	Stabilizing the head motion of a robotic dolphin with varying the stiffness of a caudal fin. , 2013, , .		4
82	Preliminary study for a soft wearable knee extensor to assist physically weak people. , 2014, , .		4
83	Fluoroscopic subtraction Eustachian tubography: initial feasibility test in a cadaver model. European Radiology, 2018, 28, 3685-3691.	2.3	4
84	An application of user-friendly control for a Respiratory Rehabilitation and Assistance Robot. , 2015, , .		3
85	Investigation of friction characteristics of a tendon driven wearable robotic hand. , 2010, , .		2
86	Modeling of tendon driven soft wearable robot for the finger. , 2013, , .		2
87	Design and manufacturing a robotic dolphin to increase dynamic performance. , 2013, , .		2
88	Virtual coupling triggering for interaction force reduction of haptic free-motion using surface EMG. International Journal of Precision Engineering and Manufacturing, 2017, 18, 1013-1020.	1.1	2
89	Development of magnet connection of modular units for soft robotics. , 2017, , .		2
90	Concept of variable transmission for tendon driven mechanism. , 2013, , .		1

#	Article	IF	Citations
91	Branching tendon routing: A new tendon methodology for compact transmission. , 2017, , .		1
92	Development of Efficiency Enhanced Scotch Yoke Mechanism for Robotic Fish. International Journal of Precision Engineering and Manufacturing, 2018, 19, 1507-1513.	1.1	1
93	Development and Evaluation of a New In Vivo Volume Measuring System in Mouse Tail Lymphedema Model. Lymphatic Research and Biology, 2019, 17, 402-412.	0.5	1
94	Usability evaluation for South Korean military backpack based on â€œcontext of useâ€• Human Factors and Ergonomics in Manufacturing, 2020, 30, 402-417.	1.4	1
95	Exo-Abs: A Wearable Robotic System Inspired by Human Abdominal Muscles for Noninvasive and Effort-Synchronized Respiratory Assistance. IEEE Transactions on Robotics, 2022, 38, 2994-3014.	7.3	1
96	Active morphing robot inspired by the pre-strained fiber structure of the Venus flytrap. , 2011, , .		0
97	Endoskeletons using composite flexure joint for biomimetic meso-scale robot. , 2011, , .		0
98	Towards a bistable morphing winglet for unmanned aerial vehicle(UAV). , 2013, , .		0
99	Sensorless admittance control of cycle ergometer for rehabilitation. , 2014, , .		0
100	Motion of Soft Robots with Physically Embodied Intelligence. , 2019, , .		0