

# Sang-Joon Ahn

## List of Publications by Year in descending order

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Version: 2024-02-01

100  
papers

5,424  
citations

147801

31  
h-index

102487

66  
g-index

103  
all docs

103  
docs citations

103  
times ranked

5110  
citing authors

#	ARTICLE	IF	CITATIONS
1	Anthropomorphic Prosthetic Hand Inspired by Efficient Swing Mechanics for Sports Activities. IEEE/ASME Transactions on Mechatronics, 2022, 27, 1196-1207.	5.8	7
2	A Dual-Origami Design that Enables the Quasisequential Deployment and Bending Motion of Soft Robots and Grippers. Advanced Intelligent Systems, 2022, 4, .	6.1	14
3	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.	10.3	1
4	Tendon-Driven Jamming Mechanism for Configurable Variable Stiffness. Soft Robotics, 2021, 8, 109-118.	8.0	23
5	Morphing Origami Block for Lightweight Reconfigurable System. IEEE Transactions on Robotics, 2021, 37, 494-505.	10.3	19
6	Slider-Tendon Linear Actuator With Under-Actuation and Fast-Connection for Soft Wearable Robots. IEEE/ASME Transactions on Mechatronics, 2021, 26, 2932-2943.	5.8	7
7	Review of machine learning methods in soft robotics. PLoS ONE, 2021, 16, e0246102.	2.5	105
8	Underwater maneuvering of robotic sheets through buoyancy-mediated active flutter. Science Robotics, 2021, 6, .	17.6	12
9	High-load capacity origami transformable wheel. Science Robotics, 2021, 6, .	17.6	47
10	4D Printing of Continuous Shape Representation. Advanced Materials Technologies, 2021, 6, 2100133.	5.8	5
11	Body-powered variable impedance: An approach to augmenting humans with a passive device by reshaping lifting posture. Science Robotics, 2021, 6, .	17.6	14
12	A Positive Pressure Jamming Based Variable Stiffness Structure and its Application on Wearable Robots. IEEE Robotics and Automation Letters, 2021, 6, 8078-8085.	5.1	20
13	Control of a Bowden-Cable Actuation System With Embedded BoASensor for Soft Wearable Robots. IEEE Transactions on Industrial Electronics, 2020, 67, 7669-7680.	7.9	21
14	Interfacing Soft and Hard: A Spring Reinforced Actuator. Soft Robotics, 2020, 7, 44-58.	8.0	51
15	A Needlescopic Wrist Mechanism With Articulated Motion and Kinematic Tractability for Micro Laparoscopic Surgery. IEEE/ASME Transactions on Mechatronics, 2020, 25, 229-238.	5.8	9
16	Usability evaluation for South Korean military backpack based on "context of use". Human Factors and Ergonomics in Manufacturing, 2020, 30, 402-417.	2.7	1
17	Joint Angle Estimation of a Tendon-Driven Soft Wearable Robot through a Tension and Stroke Measurement. Sensors, 2020, 20, 2852.	3.8	7
18	Learning-Based Fingertip Force Estimation for Soft Wearable Hand Robot With Tendon-Sheath Mechanism. IEEE Robotics and Automation Letters, 2020, 5, 946-953.	5.1	18

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19	Ladybird beetle-inspired compliant origami. <i>Science Robotics</i> , 2020, 5, .	17.6	79
20	Stretchable and Transparent Kirigami Conductor of Nanowire Percolation Network for Electronic Skin Applications. <i>Nano Letters</i> , 2019, 19, 6087-6096.	9.1	276
21	Directional Shape Morphing Transparent Walking Soft Robot. <i>Soft Robotics</i> , 2019, 6, 760-767.	8.0	45
22	Loco-sheet: Morphing Inchworm Robot Across Rough-terrain. , 2019, , .		8
23	Eyes are faster than hands: A soft wearable robot learns user intention from the egocentric view. <i>Science Robotics</i> , 2019, 4, .	17.6	57
24	Transparent wearable three-dimensional touch by self-generated multiscale structure. <i>Nature Communications</i> , 2019, 10, 2582.	12.8	64
25	Motion of Soft Robots with Physically Embodied Intelligence. , 2019, , .		0
26	JumpRoACH: A Trajectory-Adjustable Integrated Jumping-Crawling Robot. <i>IEEE/ASME Transactions on Mechatronics</i> , 2019, 24, 947-958.	5.8	46
27	Bioinspired dual-morphing stretchable origami. <i>Science Robotics</i> , 2019, 4, .	17.6	127
28	Exo-Glove Poly II: A Polymer-Based Soft Wearable Robot for the Hand with a Tendon-Driven Actuation System. <i>Soft Robotics</i> , 2019, 6, 214-227.	8.0	144
29	Development and Evaluation of a New In Vivo Volume Measuring System in Mouse Tail Lymphedema Model. <i>Lymphatic Research and Biology</i> , 2019, 17, 402-412.	1.1	1
30	Fluoroscopic subtraction Eustachian tubography: initial feasibility test in a cadaver model. <i>European Radiology</i> , 2018, 28, 3685-3691.	4.5	4
31	Hygrobot: A self-locomotive ratcheted actuator powered by environmental humidity. <i>Science Robotics</i> , 2018, 3, .	17.6	307
32	An origami-inspired, self-locking robotic arm that can be folded flat. <i>Science Robotics</i> , 2018, 3, .	17.6	166
33	Soft LEGO: Bottom-Up Design Platform for Soft Robotics. , 2018, , .		9
34	Development of Efficiency Enhanced Scotch Yoke Mechanism for Robotic Fish. <i>International Journal of Precision Engineering and Manufacturing</i> , 2018, 19, 1507-1513.	2.2	1
35	Electronic skins for soft, compact, reversible assembly of wirelessly activated fully soft robots. <i>Science Robotics</i> , 2018, 3, .	17.6	176
36	Transnasal Placement of a Balloon-Expandable Metallic Stent: Human Cadaver Study of the Eustachian Tube. <i>Journal of Vascular and Interventional Radiology</i> , 2018, 29, 1187-1193.	0.5	12

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37	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.	5.1	12
38	Biomimetic Color Changing Anisotropic Soft Actuators with Integrated Metal Nanowire Percolation Network Transparent Heaters for Soft Robotics. Advanced Functional Materials, 2018, 28, 1801847.	14.9	198
39	Development and assessment of a hand assist device: GRIPIT. Journal of NeuroEngineering and Rehabilitation, 2017, 14, 15.	4.6	24
40	Origami Wheel Transformer: A Variable-Diameter Wheel Drive Robot Using an Origami Structure. Soft Robotics, 2017, 4, 163-180.	8.0	103
41	Development of a transformable wheel actuated by soft pneumatic actuators. International Journal of Control, Automation and Systems, 2017, 15, 36-44.	2.7	15
42	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.	2.2	2
43	Development of magnet connection of modular units for soft robotics. , 2017, , .		2
44	Branching tendon routing: A new tendon methodology for compact transmission. , 2017, , .		1
45	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.	5.8	30
46	Development and evaluation of a soft wearable weight support device for reducing muscle fatigue on shoulder. PLoS ONE, 2017, 12, e0173730.	2.5	50
47	A Novel Low-Cost, Large Curvature Bend Sensor Based on a Bowden-Cable. Sensors, 2016, 16, 961.	3.8	23
48	Soft Robotic Blocks: Introducing SoBL, a Fast-Build Modularized Design Block. IEEE Robotics and Automation Magazine, 2016, 23, 30-41.	2.0	69
49	Development of soft continuum manipulator with pneumatic and tendon driven actuations. , 2016, , .		5
50	Force characteristics of rolling contact joint for compact structure. , 2016, , .		13
51	Dual-stiffness structures with reconfiguring mechanism: Design and investigation. Journal of Intelligent Material Systems and Structures, 2016, 27, 995-1010.	2.5	15
52	Evaluation of an improved soft meal assistive exoskeleton with an adjustable weight-bearing system for people with disability. , 2015, , .		11
53	Anisotropic Patterning to Reduce Instability of Concentric-Tube Robots. IEEE Transactions on Robotics, 2015, 31, 1311-1323.	10.3	43
54	Design Concept of Hybrid Instrument for Laparoscopic Surgery and Its Verification Using Scale Model Test. IEEE/ASME Transactions on Mechatronics, 2015, , 1-1.	5.8	8

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55	Design of an Optically Controlled MR-Compatible Active Needle. IEEE Transactions on Robotics, 2015, 31, 1-11.	10.3	77
56	Jumping on water: Surface tension-dominated jumping of water striders and robotic insects. Science, 2015, 349, 517-521.	12.6	306
57	Exo-Glove: A Wearable Robot for the Hand with a Soft Tendon Routing System. IEEE Robotics and Automation Magazine, 2015, 22, 97-105.	2.0	351
58	An application of user-friendly control for a Respiratory Rehabilitation and Assistance Robot. , 2015, , .		3
59	Feasibility study of a slack enabling actuator for actuating tendon-driven soft wearable robot without pretension. , 2015, , .		9
60	Toward a solution to the snapping problem in a concentric-tube continuum robot: Grooved tubes with anisotropy. , 2014, , .		34
61	Wheel Transformer: A Wheel-Leg Hybrid Robot With Passive Transformable Wheels. IEEE Transactions on Robotics, 2014, 30, 1487-1498.	10.3	136
62	Sensorless admittance control of cycle ergometer for rehabilitation. , 2014, , .		0
63	A passive, origami-inspired, continuously variable transmission. , 2014, , .		29
64	Fabrication of origami wheel using pattern embedded fabric and its application to a deformable mobile robot. , 2014, , .		21
65	Preliminary study for a soft wearable knee extensor to assist physically weak people. , 2014, , .		4
66	Design of a slider-crank leg mechanism for mobile hopping robotic platforms. Journal of Mechanical Science and Technology, 2013, 27, 207-214.	1.5	17
67	Meshworm: A Peristaltic Soft Robot With Antagonistic Nickel Titanium Coil Actuators. IEEE/ASME Transactions on Mechatronics, 2013, 18, 1485-1497.	5.8	536
68	Implementation of various control algorithms for hand rehabilitation exercise using wearable robotic hand. Intelligent Service Robotics, 2013, 6, 181-189.	2.6	43
69	Towards a bistable morphing winglet for unmanned aerial vehicle(UAV). , 2013, , .		0
70	Underactuated Adaptive Gripper Using Flexural Buckling. IEEE Transactions on Robotics, 2013, 29, 1396-1407.	10.3	40
71	Curvature tailoring of unsymmetric laminates with an initial curvature. Journal of Composite Materials, 2013, 47, 3163-3174.	2.4	25
72	Wake and thrust of an angularly reciprocating plate. Journal of Fluid Mechanics, 2013, 720, 545-557.	3.4	10

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73	Modeling of tendon driven soft wearable robot for the finger. , 2013, , .		2
74	Deformable-wheel robot based on soft material. International Journal of Precision Engineering and Manufacturing, 2013, 14, 1439-1445.	2.2	30
75	Design of deformable-wheeled robot based on origami structure with shape memory alloy coil spring. , 2013, , .		12
76	Deformable wheel robot based on origami structure. , 2013, , .		49
77	Flea inspired catapult mechanism with active energy storage and release for small scale jumping robot. , 2013, , .		37
78	Stabilizing the head motion of a robotic dolphin with varying the stiffness of a caudal fin. , 2013, , .		4
79	Concept of variable transmission for tendon driven mechanism. , 2013, , .		1
80	Design and manufacturing a robotic dolphin to increase dynamic performance. , 2013, , .		2
81	Wheel transformer: A miniaturized terrain adaptive robot with passively transformed wheels. , 2013, , .		25
82	Evaluation of the antagonistic tendon driven system for SNU Exo-Glove. , 2012, , .		8
83	Kinematic Condition for Maximizing the Thrust of a Robotic Fish Using a Compliant Caudal Fin. IEEE Transactions on Robotics, 2012, 28, 1216-1227.	10.3	84
84	Deformable soft wheel robot using hybrid actuation. , 2012, , .		19
85	Design of the shape memory alloy coil spring actuator for the soft deformable wheel robot. , 2012, , .		6
86	Flea-Inspired Catapult Mechanism for Miniature Jumping Robots. IEEE Transactions on Robotics, 2012, 28, 1007-1018.	10.3	202
87	Design and analysis of a stiffness adjustable structure using an endoskeleton. International Journal of Precision Engineering and Manufacturing, 2012, 13, 1255-1258.	2.2	33
88	Review of biomimetic underwater robots using smart actuators. International Journal of Precision Engineering and Manufacturing, 2012, 13, 1281-1292.	2.2	291
89	Design of a passive brake mechanism for tendon driven devices. International Journal of Precision Engineering and Manufacturing, 2012, 13, 1487-1490.	2.2	14
90	Active morphing robot inspired by the pre-strained fiber structure of the Venus flytrap. , 2011, , .		0

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91	Endoskeletons using composite flexure joint for biomimetic meso-scale robot. , 2011, , .		0
92	Meso-scale compliant gripper inspired by caterpillar's proleg. , 2011, , .		5
93	Design & analysis a flytrap robot using bi-stable composite. , 2011, , .		15
94	Investigation of friction characteristics of a tendon driven wearable robotic hand. , 2010, , .		2
95	Finger-sized climbing robot using artificial proleg. , 2010, , .		14
96	The effect of compliant joint and caudal fin in thrust generation for robotic fish. , 2010, , .		8
97	Towards a bio-mimetic flytrap robot based on a snap-through mechanism. , 2010, , .		29
98	Review of manufacturing processes for soft biomimetic robots. International Journal of Precision Engineering and Manufacturing, 2009, 10, 171-181.	2.2	236
99	Kinematic analysis and experimental verification on the locomotion of gecko. Journal of Bionic Engineering, 2009, 6, 246-254.	5.0	29
100	Omegabot : Biomimetic inchworm robot using SMA coil actuator and smart composite microstructures (SCM). , 2009, , .		69