Yong-Lae Park

List of Publications by Year
in descending order

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95 papers	5,832 citations	147801 31 h-index	91884 69 g-index
96 all docs	96 docs citations	96 times ranked	4905 citing authors

#	Article	IF	Citations
1	Design and Fabrication of Soft Artificial Skin Using Embedded Microchannels and Liquid Conductors. IEEE Sensors Journal, 2012, 12, 2711-2718.	4.7	632
2	Hyperelastic pressure sensing with a liquid-embedded elastomer. Journal of Micromechanics and Microengineering, 2010, 20, 125029.	2.6	418
3	Design and control of a bio-inspired soft wearable robotic device for ankleâ€“foot rehabilitation. Bioinspiration and Biomimetics, 2014, 9, 016007.	2.9	378
4	Electronic skins and machine learning for intelligent soft robots. Science Robotics, 2020, 5, .	17.6	339
5	Wearable soft sensing suit for human gait measurement. International Journal of Robotics Research, 2014, 33, 1748-1764.	8.5	325
6	A Soft Strain Sensor Based on Ionic and Metal Liquids. IEEE Sensors Journal, 2013, 13, 3405-3414.	4.7	288
7	Design and Characterization of a Soft Multi-Axis Force Sensor Using Embedded Microfluidic Channels. IEEE Sensors Journal, 2013, 13, 4056-4064.	4.7	240
8	Pneumatic Energy Sources for Autonomous and Wearable Soft Robotics. Soft Robotics, 2014, 1, 263-274.	8.0	215
9	Real-Time Estimation of 3-D Needle Shape and Deflection for MRI-Guided Interventions. IEEE/ASME Transactions on Mechatronics, 2010, 15, 906-915.	5.8	190
10	Design of a Lightweight Soft Robotic Arm Using Pneumatic Artificial Muscles and Inflatable Sleeves. Soft Robotics, 2018, 5, 204-215.	8.0	133
11	Heterogeneous sensing in a multifunctional soft sensor for human-robot interfaces. Science Robotics, 2020, 5, .	17.6	108
12	A soft wearable robotic device for active knee motions using flat pneumatic artificial muscles. , 2014, , .		105
13	Review of machine learning methods in soft robotics. PLoS ONE, 2021, 16, e0246102.	2.5	105
14	Use of Deep Learning for Characterization of Microfluidic Soft Sensors. IEEE Robotics and Automation Letters, 2018, 3, 873-880.	5.1	101
15	A Soft Wearable Robotic Ankle-Foot-Orthosis for Post-Stroke Patients. IEEE Robotics and Automation Letters, 2019, 4, 2547-2552.	5.1	99
16	Design and Control of a Bio-inspired Human-friendly Robot. International Journal of Robotics Research, 2010, 29, 571-584.	8.5	95
17	Exoskeletal Force-Sensing End-Effectors With Embedded Optical Fiber-Bragg-Grating Sensors. IEEE Transactions on Robotics, 2009, 25, 1319-1331.	10.3	92
18	Deep Full-Body Motion Network for a Soft Wearable Motion Sensing Suit. IEEE/ASME Transactions on Mechatronics, 2019, 24, 56-66.	5.8	92

#	Article	IF	Citations
19	Soft wearable motion sensing suit for lower limb biomechanics measurements. , 2013, , .		87
20	Soft Tactile Skin Using an Embedded Ionic Liquid and Tomographic Imaging. Journal of Mechanisms and Robotics, 2015, 7, .	2.2	86
21	Improving Soft Pneumatic Actuator fingers through integration of soft sensors, position and force control, and rigid fingernails. , 2016, , .		86
22	Wearable soft artificial skin for hand motion detection with embedded microfluidic strain sensing. , 2015, , .		82
23	Highly stretchable optical sensors for pressure, strain, and curvature measurement. , 2015, , .		69
24	Liquid Metalâ€Conductive Thermoplastic Elastomer Integration for Lowâ€Voltage Stiffness Tuning. Advanced Materials Technologies, 2017, 2, 1700179.	5.8	65
25	Design of flat pneumatic artificial muscles. Smart Materials and Structures, 2017, 26, 035009.	3.5	64
26	Active modular elastomer sleeve for soft wearable assistance robots. , 2012, , .		56
27	Smart pneumatic artificial muscle actuator with embedded microfluidic sensing. , 2013, , .		55
28	Influence of cross-sectional geometry on the sensitivity and hysteresis of liquid-phase electronic pressure sensors. Applied Physics Letters, 2012, 101, .	3.3	54
29	Sensorized, Flat, Pneumatic Artificial Muscle Embedded with Biomimetic Microfluidic Sensors for Proprioceptive Feedback. Soft Robotics, 2019, 6, 768-777.	8.0	53
30	Enhanced performance of microfluidic soft pressure sensors with embedded solid microspheres. Journal of Micromechanics and Microengineering, 2016, 26, 025011.	2.6	48
31	The Curious Robot: Learning Visual Representations via Physical Interactions. Lecture Notes in Computer Science, 2016, , 3-18.	1.3	48
32	Soft Inflatable Sensing Modules for Safe and Interactive Robots. IEEE Robotics and Automation Letters, 2018, 3, 3216-3223.	5.1	44
33	Soft Wearable Skin-Stretch Device for Haptic Feedback Using Twisted and Coiled Polymer Actuators. IEEE Transactions on Haptics, 2019, 12, 521-532.	2.7	43
34	Carbon nanotube-reinforced smart composites for sensing freezing temperature and deicing by self-heating. Nanomaterials and Nanotechnology, 2018, 8, 184798041877647.	3.0	42
35	Wearable Finger Tracking and Cutaneous Haptic Interface with Soft Sensors for Multi-Fingered Virtual Manipulation. IEEE/ASME Transactions on Mechatronics, 2019, 24, 67-77.	5.8	40
36	Optically Sensorized Elastomer Air Chamber for Proprioceptive Sensing of Soft Pneumatic Actuators. IEEE Robotics and Automation Letters, 2020, 5, 2333-2340.	5.1	37

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37	A Soft Optical Waveguide Coupled With Fiber Optics for Dynamic Pressure and Strain Sensing. IEEE Robotics and Automation Letters, 2018, 3, 3821-3827.	5.1	36
38	Bio-Inspired Design of Soft Robotic Assistive Devices: The Interface of Physics, Biology, and Behavior. Ecological Psychology, 2012, 24, 300-327.	1.1	35
39	Design of centimeter-scale inchworm robots with bidirectional claws. , 2011, , .		33
40	Adaptive Calibration of Soft Sensors Using Optimal Transportation Transfer Learning for Mass Production and Longâ€Term Usage. Advanced Intelligent Systems, 2020, 2, 1900178.	6.1	32
41	Soft Miniaturized Actuation and Sensing Units for Dynamic Force Control of Cardiac Ablation Catheters. Soft Robotics, 2021, 8, 59-70.	8.0	32
42	Soft artificial skin with multi-modal sensing capability using embedded liquid conductors. , 2011, , .		30
43	Modeling and Control of a Soft Robotic Fish with Integrated Soft Sensing. Advanced Intelligent Systems, 2023, 5, 2000244.	6.1	29
44	Flat Inflatable Artificial Muscles With Large Stroke and Adjustable Forceâ€“ Length Relations. IEEE Transactions on Robotics, 2020, 36, 743-756.	10.3	28
45	Direct printing of sub-30 Î¼m liquid metal patterns on three-dimensional surfaces for stretchable electronics. Journal of Micromechanics and Microengineering, 2020, 30, 034001.	2.6	26
46	Semi-Supervised Gait Generation With Two Microfluidic Soft Sensors. IEEE Robotics and Automation Letters, 2019, 4, 2501-2507.	5.1	24
47	Triboresistive Touch Sensing: Gridâ€Free Touchâ€Point Recognition Based on Monolayered Ionic Power Generators. Advanced Materials, 2022, 34, e2108586.	21.0	24
48	Influence of Coalescence on the Anisotropic Mechanical and Electrical Properties of Nickel Powder/Polydimethylsiloxane Composites. Materials, 2016, 9, 239.	2.9	23
49	A Lightweight, Soft Wearable Sleeve for Rehabilitation of Forearm Pronation and Supination. , 2019, , .		23
50	Autonomous Real-Time Interventional Scan Plane Control With a 3-D Shape-Sensing Needle. IEEE Transactions on Medical Imaging, 2014, 33, 2128-2139.	8.9	21
51	Fiber optically sensorized multi-fingered robotic hand. , 2015, , .		21
52	A Soft Three-Axis Load Cell Using Liquid-Filled Three-Dimensional Microchannels in a Highly Deformable Elastomer. IEEE Robotics and Automation Letters, 2018, 3, 881-887.	5.1	21
53	A soft multi-axis force sensor. , 2012, , .		20
54	Delicate Fabric Handling Using a Soft Robotic Gripper With Embedded Microneedles. IEEE Robotics and Automation Letters, 2020, 5, 4852-4858.	5.1	20

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55	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
56	Accelerated Curing and Enhanced Material Properties of Conductive Polymer Nanocomposites by Joule Heating. Materials, 2018, 11, 1775.	2.9	19
57	Probabilistic Modeling and Bayesian Filtering for Improved State Estimation for Soft Robots. IEEE Transactions on Robotics, 2021, 37, 1728-1741.	10.3	18
58	Contact Localization and Force Estimation of Soft Tactile Sensors Using Artificial Intelligence. , 2018, , .		17
59	Design of A Multi-Functional Soft Ankle Exoskeleton for Foot-Drop Prevention, Propulsion Assistance, and Inversion/Eversion Stabilization. , 2020, , .		17
60	Elongatable Gripper Fingers With Integrated Stretchable Tactile Sensors for Underactuated Grasping and Dexterous Manipulation. IEEE Transactions on Robotics, 2022, 38, 2179-2193.	10.3	17
61	Soft artificial electroreceptors for noncontact spatial perception. Science Advances, 2021, 7, eabg9203.	10.3	16
62	Design of fiber-reinforced soft bending pneumatic artificial muscles for wearable tremor suppression devices. Smart Materials and Structures, 2021, 30, 015013.	3.5	15
63	A Simple Tripod Mobile Robot Using Soft Membrane Vibration Actuators. IEEE Robotics and Automation Letters, 2019, 4, 2289-2295.	5.1	14
64	Miniaturized Robotic End-Effector With Piezoelectric Actuation and Fiber Optic Sensing for Minimally Invasive Cardiac Procedures. IEEE Sensors Journal, 2018, 18, 4961-4968.	4.7	13
65	Learning to Walk a Tripod Mobile Robot Using Nonlinear Soft Vibration Actuators With Entropy Adaptive Reinforcement Learning. IEEE Robotics and Automation Letters, 2020, 5, 2317-2324.	5.1	13
66	Collapse of triangular channels in a soft elastomer. Applied Physics Letters, 2013, 102, .	3.3	12
67	Design of Pneumatic Origami Muscle Actuators (POMAs) for A Soft Robotic Hand Orthosis for Grasping Assistance. , 2020, , .		12
68	An active compression sleeve with variable pressure levels using a wire-fabric mechanism and a soft sensor. Smart Materials and Structures, 2019, 28, 114002.	3.5	11
69	Biomimetic Soft Airflow Sensor with Printed Ionogel Conductor. , 2019, , .		10
70	Hybrid System Analysis and Control of a Soft Robotic Gripper with Embedded Proprioceptive Sensing for Enhanced Gripping Performance. Advanced Intelligent Systems, 2021, 3, 2000061.	6.1	10
71	Selectively Stiffening Garments Enabled by Cellular Composites. Advanced Materials Technologies, 2022, 7, .	5.8	10
72	Magnetically Assisted Bilayer Composites for Soft Bending Actuators. Materials, 2017, 10, 646.	2.9	9

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73	Force Sensitive Robotic End-Effector Using Embedded Fiber Optics and Deep Learning Characterization for Dexterous Remote Manipulation. IEEE Robotics and Automation Letters, 2019, 4, 3481-3488.	5.1	8
74	Multi-Material Soft Strain Sensors with High Gauge Factors for Proprioceptive Sensing of Soft Bending Actuators. , 2019, , .		8
75	Explainable Deep Learning Model for EMG-Based Finger Angle Estimation Using Attention. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2022, 30, 1877-1886.	4.9	8
76	Ratchet-integrated pneumatic actuator (RIPA): a large-stroke soft linear actuator inspired by sarcomere muscle contraction. Bioinspiration and Biomimetics, 2020, 15, 036011.	2.9	7
77	Design of a Lightweight Inflatable Sensing Sleeve for Increased Adaptability and Safety of Legged Robots. , 2019, , .		6
78	Smart Skin: Vision-Based Soft Pressure Sensing System for In-Home Hand Rehabilitation. Soft Robotics, 2022, 9, 473-485.	8.0	6
79	Undulatory Swimming Performance Explored With a Biorobotic Fish and Measured by Soft Sensors and Particle Image Velocimetry. Frontiers in Robotics and AI, 2021, 8, 791722.	3.2	6
80	Design of wearable orthopedic devices for treating forward head postures using pneumatic artificial muscles and flex sensors. , 2017, , .		5
81	Hybrid System Analysis and Control of a Soft Robotic Gripper with Embedded Proprioceptive Sensing for Enhanced Gripping Performance. Advanced Intelligent Systems, 2021, 3, 2170031.	6.1	4
82	Body Caudal Undulation Measured by Soft Sensors and Emulated by Soft Artificial Muscles. Integrative and Comparative Biology, 2021, 61, 1955-1965.	2.0	4
83	Performance Evaluation of Optically Sensorized Tendons for Articulate Surgical Instruments. Journal of Medical Devices, Transactions of the ASME, 2019, 13, .	0.7	4
84	Improved pressure response with embedded solid microbeads in microfluidic soft sensors. , 2014, , .		3
85	Hybrid Mechanism of Electromagnetic and Piezoresistive Sensing Using a Soft Microfluidic Coil. IEEE Robotics and Automation Letters, 2022, 7, 4638-4645.	5.1	3
86	Design of a soft 3-axis load cell for human-robot interactions. , 2017, , .		2
87	Classification of components of affective touch using rapidly-manufacturable soft sensor skins. , 2020, , .		2
88	Clinical Outcomes Following Letrozole Treatment according to Estrogen Receptor Expression in Postmenopausal Women: LETTER Study (KBCSG-006). Journal of Breast Cancer, 2021, 24, 164.	1.9	2
89	Selective Patterning of Conductive Elastomers Embedded With Silver Powders and Carbon Nanotubes for Stretchable Electronics. IEEE Robotics and Automation Letters, 2022, 7, 4983-4990.	5.1	2
90	Networked bio-inspired modules for sensorimotor control of wearable cyber-physical devices. , 2013, , .		1

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91	Versatile rotary actuators for small-scale robotic systems. , 2020, , .		1
92	Open-loop printing of liquid metal for the low-cost rapid fabrication of soft sensors. , 2022, , .		1
93	Triboresistive Touch Sensing: Gridâ€Free Touchâ€Point Recognition Based on Monolayered Ionic Power Generators (Adv. Mater. 19/2022). Advanced Materials, 2022, 34, .	21.0	1
94	Pop-up cookie molds: self-folding elastomer sheets using thermal expansion of embedded air chambers. Smart Materials and Structures, 2021, 30, 115013.	3.5	0
95	A Twisted Elastic Rotary-Rail Actuator (TERRA) Using a Double-Stranded Helix Structure. IEEE Robotics and Automation Letters, 2021, 6, 7381-7388.	5.1	0