Nikolaus Correll

List of Publications by Year
in descending order

64	2,723	471509 17	302126 39
papers	citations	h-index	g-index

65	65	65	3507
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Soft Robotics: Review of Fluidâ€Driven Intrinsically Soft Devices; Manufacturing, Sensing, Control, and Applications in Humanâ€Robot Interaction. Advanced Engineering Materials, 2017, 19, 1700016.	3.5	707
2	Materials that couple sensing, actuation, computation, and communication. Science, 2015, 347, 1261689.	12.6	471
3	Analysis and Observations From the First Amazon Picking Challenge. IEEE Transactions on Automation Science and Engineering, 2018, 15, 172-188.	5.2	269
4	SwisTrack - A Flexible Open Source Tracking Software for Multi-Agent Systems. , 2008, , .		108
5	C-FOREST: Parallel Shortest Path Planning With Superlinear Speedup. IEEE Transactions on Robotics, 2013, 29, 798-806.	10.3	71
6	A soft pneumatic actuator that can sense grasp and touch. , 2015, , .		66
7	Soft Autonomous Materialsâ€"Using Active Elasticity and Embedded Distributed Computation. Springer Tracts in Advanced Robotics, 2014, , 227-240.	0.4	61
8	Thermoplastic variable stiffness composites with embedded, networked sensing, actuation, and control. Journal of Composite Materials, 2015, 49, 1799-1808.	2.4	58
9	Modeling and designing self-organized aggregation in a swarm of miniature robots. International Journal of Robotics Research, 2011, 30, 615-626.	8.5	56
10	A Robotic Skin for Collision Avoidance and Affective Touch Recognition. IEEE Robotics and Automation Letters, 2018, 3, 1386-1393.	5.1	56
11	Collaborative coverage using a swarm of networked miniature robots. Robotics and Autonomous Systems, 2009, 57, 517-525.	5.1	49
12	Texture recognition and localization in amorphous robotic skin. Bioinspiration and Biomimetics, 2015, 10, 055002.	2.9	42
13	Experience-based planning with sparse roadmap spanners. , 2015, , .		41
14	Building a distributed robot garden. , 2009, , .		38
15	Modeling multi-robot task allocation with limited information as global game. Swarm Intelligence, 2016, 10, 147-160.	2.2	38
16	Multirobot inspection of industrial machinery. IEEE Robotics and Automation Magazine, 2009, 16, 103-112.	2.0	34
17	A One-Year Introductory Robotics Curriculum for Computer Science Upperclassmen. IEEE Transactions on Education, 2013, 56, 54-60.	2.4	33
18	Integrated proximity, contact and force sensing using elastomer-embedded commodity proximity sensors. Autonomous Robots, 2018, 42, 1443-1458.	4.8	30

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19	A stick-slip omnidirectional powertrain for low-cost swarm robotics: Mechanism, calibration, and control. , 2014, , .		27
20	Ad-hoc wireless network coverage with networked robots that cannot localize. , 2009, , .		26
21	Distributed boundary coverage with a team of networked miniature robots using a robust market-based algorithm. Annals of Mathematics and Artificial Intelligence, 2008, 52, 307-333.	1.3	23
22	Detecting and Identifying Tactile Gestures using Deep Autoencoders, Geometric Moments and Gesture Level Features. , 2015, , .		20
23	Flutter. , 2015, , .		20
24	Recognizing social touch gestures using recurrent and convolutional neural networks. , 2017, , .		19
25	Will robots be bodies with brains or brains with bodies?. Science Robotics, 2017, 2, .	17.6	19
26	Miniaturized Circuitry for Capacitive Self-Sensing and Closed-Loop Control of Soft Electrostatic Transducers. Soft Robotics, 2021, 8, 673-686.	8.0	19
27	Miniature six-channel range and bearing system: Algorithm, analysis and experimental validation. , 2014, , .		17
28	Identification and Control of a Nonlinear Soft Actuator and Sensor System. IEEE Robotics and Automation Letters, 2020, 5, 3783-3790.	5.1	17
29	Parameter estimation and optimal control of swarm-robotic systems: A case study in distributed task allocation. , 2008, , .		16
30	Materials that make robots smart. International Journal of Robotics Research, 2019, 38, 1338-1351.	8.5	16
31	Multi-modal prosthetic fingertip sensor with proximity, contact, and force localization capabilities. Advances in Mechanical Engineering, 2019, 11, 168781401984464.	1.6	16
32	Indoor robot gardening: design and implementation. Intelligent Service Robotics, 2010, 3, 219-232.	2.6	14
33	A soft, amorphous skin that can sense and localize textures. , 2014, , .		13
34	Assembly path planning for stable robotic construction. , 2014, , .		13
35	Simultaneous localization, mapping, and manipulation for unsupervised object discovery. , 2015, , .		13
36	Shape Change Through Programmable Stiffness. Springer Tracts in Advanced Robotics, 2016, , 893-907.	0.4	13

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37	Functionalized textiles for interactive soft robotics. , 2017, , .		13
38	Fault-tolerant Covariance Intersection for localizing robot swarms. Robotics and Autonomous Systems, 2019, 122, 103306.	5.1	13
39	Consensus or Deadlock? Consequences of Simple Behavioral Rules for Coordination in Group Decisions. PLoS ONE, 2016, 11, e0162768.	2.5	11
40	Distributed Inverse Kinematics for Shape-changing Robotic Materials. Procedia Technology, 2016, 26, 4-11.	1.1	10
41	Robots assembling machines: learning from the World Robot Summit 2018 Assembly Challenge. Advanced Robotics, 0, , 1-14.	1.8	10
42	Truss assembly and welding by Intelligent Precision Jigging Robots. , 2014, , .		9
43	Precise assembly of 3D truss structures using MLE-based error prediction and correction. International Journal of Robotics Research, 2015, 34, 1622-1644.	8.5	9
44	A Response Threshold Sigmoid Function Model for Swarm Robot Collaboration. Springer Tracts in Advanced Robotics, 2016, , 193-206.	0.4	9
45	Shape-Changing Materials Using Variable Stiffness and Distributed Control. Soft Robotics, 2018, 5, 737-747.	8.0	9
46	Autonomous industrial assembly using force, torque, and RGB-D sensing. Advanced Robotics, 0, , 1-14.	1.8	9
47	Precise truss assembly using commodity parts and low precision welding. Intelligent Service Robotics, 2014, 7, 93-102.	2.6	8
48	Electro-Hydraulic Rolling Soft Wheel: Design, Hybrid Dynamic Modeling, and Model Predictive Control. IEEE Transactions on Robotics, 2022, 38, 3044-3063.	10.3	8
49	Distributed Spatiotemporal Gesture Recognition in Sensor Arrays. ACM Transactions on Autonomous and Adaptive Systems, 2015, 10, 1-19.	0.8	6
50	Intelligent RF-Based Gesture Input Devices Implemented Using e-Textiles. Sensors, 2017, 17, 219.	3.8	6
51	Mobile Manipulation Hackathon: Moving into Real World Applications. IEEE Robotics and Automation Magazine, 2021, 28, 112-124.	2.0	6
52	Establishing Multi-cast Groups in Computational Robotic Materials. , 2012, , .		5
53	Precise truss assembly using commodity parts and low precision welding. , 2013, , .		5
54	SIRONA: Sustainable Integration of Regenerative Outer-space Nature and Agriculture. Part 2 â€" Design Development and Projected Performance. Acta Astronautica, 2022, 196, 350-368.	3.2	5

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55	Navigation with foraging. , 2013, , .		4
56	Dynamic teams of robots as ad hoc distributed computers: reducing the complexity of multi-robot motion planning via subspace selection. Autonomous Robots, 2018, 42, 1691-1713.	4.8	4
57	Distributed camouflage for swarm robotics and smart materials. Autonomous Robots, 2018, 42, 1635-1650.	4.8	4
58	High-Bandwidth Nonlinear Control for Soft Actuators with Recursive Network Models. Springer Proceedings in Advanced Robotics, 2021, , 589-599.	1.3	4
59	From swarm robotics to smart materials. Neural Computing and Applications, 2010, 19, 785-786.	5.6	3
60	Object Interaction Language (OIL): An intent-based language for programming self-organized sensor/actuator networks. , 2010, , .		2
61	Distributed Convolutional Neural Networks for Human Activity Recognition in Wearable Robotics. Springer Proceedings in Advanced Robotics, 2018, , 619-631.	1.3	2
62	Robotic materials for robot autonomy. , 2019, , 295-307.		0
63	Embedded Neural Networks forÂRobot Autonomy. Springer Proceedings in Advanced Robotics, 2022, , 242-257.	1.3	0
64	Augmented reality for humanâ€“swarm interaction in a swarm-robotic chemistry simulation. Artificial Life and Robotics, 2022, 27, 407-415.	1.2	0