Jacob Rosen

List of Publications by Year
in descending order

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65 papers	3,714 citations	257101 24 h-index	243296 44 g-index
66 all docs	66 docs citations	66 times ranked	3182 citing authors

#	Article	IF	Citations
1	Upper-Limb Powered Exoskeleton Design. IEEE/ASME Transactions on Mechatronics, 2007, 12, 408-417.	3.7	788
2	Raven-II: An Open Platform for Surgical Robotics Research. IEEE Transactions on Biomedical Engineering, 2013, 60, 954-959.	2.5	304
3	The RAVEN: Design and Validation of a Telesurgery System. International Journal of Robotics Research, 2009, 28, 1183-1197.	5.8	209
4	Real-Time Myoprocessors for a Neural Controlled Powered Exoskeleton Arm. IEEE Transactions on Biomedical Engineering, 2006, 53, 2387-2396.	2.5	202
5	Generalized Approach for Modeling Minimally Invasive Surgery as a Stochastic Process Using a Discrete Markov Model. IEEE Transactions on Biomedical Engineering, 2006, 53, 399-413.	2.5	195
6	Biomechanical Properties of Abdominal Organs In Vivo and Postmortem Under Compression Loads. Journal of Biomechanical Engineering, 2008, 130, 021020.	0.6	185
7	Optimization of a Spherical Mechanism for a Minimally Invasive Surgical Robot: Theoretical and Experimental Approaches. IEEE Transactions on Biomedical Engineering, 2006, 53, 1440-1445.	2.5	156
8	Neural PID Control of Robot Manipulators With Application to an Upper Limb Exoskeleton. IEEE Transactions on Cybernetics, 2013, 43, 673-684.	6.2	138
9	Performances of Hill-Type and Neural Network Muscle Modelsâ€"Toward a Myosignal-Based Exoskeleton. Journal of Biomedical Informatics, 1999, 32, 415-439.	0.7	107
10	Task Decomposition of Laparoscopic Surgery for Objective Evaluation of Surgical Residents' Learning Curve Using Hidden Markov Model. Computer Aided Surgery, 2002, 7, 49-61.	1.8	106
11	Kinematic Data Analysis for Post-Stroke Patients Following Bilateral Versus Unilateral Rehabilitation With an Upper Limb Wearable Robotic System. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2013, 21, 153-164.	2.7	106
12	Assessment of Tissue Damage due to Mechanical Stresses. International Journal of Robotics Research, 2007, 26, 1159-1171.	5.8	102
13	Redundancy Resolution of the Human Arm and an Upper Limb Exoskeleton. IEEE Transactions on Biomedical Engineering, 2012, 59, 1770-1779.	2.5	68
14	A novel linear PID controller for an upper limb exoskeleton. , 2010, , .		66
15	UPPER LIMB POWERED EXOSKELETON. International Journal of Humanoid Robotics, 2007, 04, 529-548.	0.6	64
16	Evaluation of Unmanned Airborne Vehicles and Mobile Robotic Telesurgery in an Extreme Environment. Telemedicine Journal and E-Health, 2008, 14, 539-544.	1.6	56
17	Chronic stroke survivors achieve comparable outcomes following virtual task specific repetitive training guided by a wearable robotic orthosis (UL-EXO7) and actual task specific repetitive training guided by a physical therapist. Journal of Hand Therapy, 2013, 26, 343-352.	0.7	55
18	Autonomous suturing via surgical robot: An algorithm for optimal selection of needle diameter, shape, and path. , 2017, , .		47

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19	Teleoperation in surgical robotics – network latency effects on surgical performance. , 2009, 2009, 6860-3.		44
20	Task decomposition of laparoscopic surgery for objective evaluation of surgical residents' learning curve using hidden Markov model. Computer Aided Surgery, 2002, 7, 49-61.	1.8	39
21	Comparison of multi-sensor admittance control in joint space and task space for a seven degree of freedom upper limb exoskeleton. , 2010, , .		35
22	Isotropy of an Upper Limb Exoskeleton and the Kinematics and Dynamics of the Human Arm. Applied Bionics and Biomechanics, 2009, 6, 175-191.	0.5	33
23	Predicting Redundancy of a 7 DOF Upper Limb Exoskeleton Toward Improved Transparency between Human and Robot. Journal of Intelligent and Robotic Systems: Theory and Applications, 2015, 80, 99-119.	2.0	31
24	InÂvitro evaluation of accuracy and precision of automated robotic tooth preparation system for porcelain laminate veneers. Journal of Prosthetic Dentistry, 2015, 114, 229-235.	1.1	30
25	PID admittance control for an upper limb exoskeleton. , 2011, , .		29
26	Modeling the Human Body/Seat System in a Vibration Environment. Journal of Biomechanical Engineering, 2003, 125, 223-231.	0.6	27
27	Plugfest 2009: Global interoperability in Telerobotics and telemedicine. , 2010, 2010, 1733-1738.		26
28	SCADE: Simultaneous Sensor Calibration and Deformation Estimation of FBG-Equipped Unmodeled Continuum Manipulators. IEEE Transactions on Robotics, 2020, 36, 222-239.	7.3	26
29	In-vivo and in-situ compressive properties of porcine abdominal soft tissues. Studies in Health Technology and Informatics, 2003, 94, 26-32.	0.2	26
30	The Blue DRAGON--a system for monitoring the kinematics and the dynamics of endoscopic tools in minimally invasive surgery for objective laparoscopic skill assessment. Studies in Health Technology and Informatics, 2002, 85, 412-8.	0.2	26
31	Isotropy of an upper limb exoskeleton and the kinematics and dynamics of the human arm. Applied Bionics and Biomechanics, 2009, 6, 175-191.	0.5	23
32	Raven: Developing a Surgical Robot from a Concept to a Transatlantic Teleoperation Experiment. , 2011, , 159-197.		22
33	Kinematic analysis of 7 degrees of freedom upper-limb exoskeleton robot with tilted shoulder abduction. International Journal of Precision Engineering and Manufacturing, 2013, 14, 69-76.	1.1	21
34	Roboscope: A flexible and bendable surgical robot for single portal Minimally Invasive Surgery. , 2017, , .		21
35	Redundancy resolution of a human arm for controlling a seven DOF wearable robotic system. , 2011, 2011, 3471-4.		20
36	Robotic Rehabilitation Game Design for Chronic Stroke. Games for Health Journal, 2012, 1, 422-430.	1.1	20

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37	Quantifying surgeon grasping mechanics in laparoscopy using the Blue DRAGON system. Studies in Health Technology and Informatics, 2004, 98, 34-6.	0.2	19
38	Resolving the redundancy of a seven DOF wearable robotic system based on kinematic and dynamic constraint. , 2012, , .		18
39	Asymmetric Dual Arm Approach For Post Stroke Recovery Of Motor Functions Utilizing The EXO-UL8 Exoskeleton System: A Pilot Study. , 2018, 2018, 1701-1707.		16
40	Sensor Reduction, Estimation, and Control of an Upper-Limb Exoskeleton. IEEE Robotics and Automation Letters, 2021, 6, 1012-1019.	3.3	15
41	Upper limb bilateral symmetric training with robotic assistance and clinical outcomes for stroke. International Journal of Intelligent Computing and Cybernetics, 2016, 9, 83-104.	1.6	14
42	Automated Tool Handling for the Trauma Pod Surgical Robot. , 2007, , .		13
43	Upper Limb Joint Space Modeling of Stroke Induced Synergies Using Isolated and Voluntary Arm Perturbations. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2014, 22, 491-500.	2.7	12
44	Upper Limb Exoskeleton Systemsâ€"Overview. , 2020, , 1-22.		12
45	Rhythmic affects on stroke-induced joint synergies across a range of speeds. Experimental Brain Research, 2013, 229, 517-524.	0.7	11
46	Spatial Map of Synthesized Criteria for the Redundancy Resolution of Human Arm Movements. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2015, 23, 1020-1030.	2.7	11
47	Maximizing dexterous workspace and optimal port placement of a multi-arm surgical robot. , 2011, , .		10
48	Design of a Multi-Arm Surgical Robotic System for Dexterous Manipulation. Journal of Mechanisms and Robotics, 2016, 8, .	1.5	10
49	Admittance Control Scheme Comparison of EXO-UL8: A Dual-Arm Exoskeleton Robotic System. , 2019, 2019, 611-617.		10
50	Objective assessment of telesurgical robot systems: Telerobotic FLS. Studies in Health Technology and Informatics, 2008, 132, 263-5.	0.2	10
51	Redundancy and joint limits of a seven degree of freedom upper limb exoskeleton. , 2011, 2011, 8154-7.		9
52	Spherical mechanism analysis of a surgical robot for minimally invasive surgery -- analytical and experimental approaches. Studies in Health Technology and Informatics, 2005, 111, 422-8.	0.2	8
53	Synthesizing Redundancy Resolution Criteria of the Human Arm Posture in Reaching Movements. Lecture Notes in Electrical Engineering, 2013, , 201-240.	0.3	7
54	Upper limb redundancy resolution under gravitational loading conditions: Arm postural stability index based on dynamic manipulability analysis. , 2017, , .		7

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55	The joint coordination in reach-to-grasp movements. , 2014, , .		6
56	Stroke-induced synergistic phase shifting and its possible implications for recovery mechanisms. Experimental Brain Research, 2014, 232, 3489-3499.	0.7	6
57	Autonomous Operation in Surgical Robotics. Mechanical Engineering, 2015, 137, S15-S18.	0.0	6
58	From reaching to reach-to-grasp: the arm posture difference and its implications on human motion control strategy. Experimental Brain Research, 2017, 235, 1627-1642.	0.7	6
59	Freeing the Serial Mechanism Designer from Inverse Kinematic Solvability Constraints. Applied Bionics and Biomechanics, 2010, 7, 209-216.	0.5	5
60	Minimally invasive surgery task decomposition--etymology of endoscopic suturing. Studies in Health Technology and Informatics, 2003, 94, 295-301.	0.2	5
61	Semi-Automated Extraction of Lens Fragments Via a Surgical Robot Using Semantic Segmentation of OCT Images With Deep Learning - Experimental Results in Ex Vivo Animal Model. IEEE Robotics and Automation Letters, 2021, 6, 5261-5268.	3.3	4
62	Constant Visual and Haptic Time Delays in Simulated Bilateral Teleoperation: Quantifying the Human Operator Performance. Presence: Teleoperators and Virtual Environments, 2013, 22, 271-290.	0.3	3
63	Task-relevance of grasping-related degrees of freedom in reach-to-grasp movements. , 2014, 2014, 6903-6.		3
64	EXO-UL Upper Limb Robotic Exoskeleton System Series: From 1 DOF Single-Arm to (7+1) DOFs Dual-Arm. , 2020, , 91-103.		1
65	Macro and Micro Soft-Tissue Biomechanics and Tissue Damage: Application in Surgical Robotics. , 2011, , 583-618.		1