Juan P Wachs

List of Publications by Year
in descending order

140 papers	2,371 citations	304743 22 h-index	265206 42 g-index
142 all docs	142 docs citations	142 times ranked	1938 citing authors

#	Article	IF	Citations
1	Touchless Interfaces in the Operating Room: A Study in Gesture Preferences. International Journal of Human-Computer Interaction, 2023, 39, 438-448.	4.8	2
2	Fast and Robust UAV to UAV Detection and Tracking From Video. IEEE Transactions on Emerging Topics in Computing, 2022, 10, 1519-1531.	4.6	16
3	JSE: Joint Semantic Encoder for zero-shot gesture learning. Pattern Analysis and Applications, 2022, 25, 679-692.	4.6	2
4	Nonmyopic Informative Path Planning Based on Global Kriging Variance Minimization. IEEE Robotics and Automation Letters, 2022, 7, 1768-1775.	5.1	8
5	To Watch Before or Listen While Doing? A Randomized Pilot of Video-Modelling versus Telementored Tube Thoracostomy. Prehospital and Disaster Medicine, 2022, 37, 71-77.	1.3	4
6	A neurotechnological aid for semi-autonomous suction in robotic-assisted surgery. Scientific Reports, 2022, 12, 4504.	3.3	1
7	Active Multiobject Exploration and Recognition via Tactile Whiskers. IEEE Transactions on Robotics, 2022, 38, 3479-3497.	10.3	2
8	SARTRES: a semi-autonomous robot teleoperation environment for surgery. Computer Methods in Biomechanics and Biomedical Engineering: Imaging and Visualization, 2021, 9, 376-383.	1.9	6
9	The AI-Medic: an artificial intelligent mentor for trauma surgery. Computer Methods in Biomechanics and Biomedical Engineering: Imaging and Visualization, 2021, 9, 313-321.	1.9	4
10	From the Dexterous Surgical Skill to the Battlefieldâ€"A Robotics Exploratory Study. Military Medicine, 2021, 186, 288-294.	0.8	10
11	Procedural Telementoring in Rural, Underdeveloped, and Austere Settings: Origins, Present Challenges, and Future Perspectives. Annual Review of Biomedical Engineering, 2021, 23, 115-139.	12.3	8
12	Assessing Collaborative Physical Tasks Via Gestural Analysis. IEEE Transactions on Human-Machine Systems, 2021, 51, 152-161.	3.5	0
13	Fingers See Things Differently (FIST-D): An Object Aware Visualization and Manipulation Framework Based on Tactile Observations. IEEE Robotics and Automation Letters, 2021, 6, 4249-4256.	5.1	1
14	ICONS: Imitation CONStraints for Robot Collaboration. , 2021, , .		1
15	SACHETS: Semi-Autonomous Cognitive Hybrid Emergency Teleoperated Suction. , 2021, , .		3
16	Dexterous Skill Transfer between Surgical Procedures for Teleoperated Robotic Surgery. , 2021, , .		1
17	Assessing task understanding in remote ultrasound diagnosis via gesture analysis. Pattern Analysis and Applications, 2021, 24, 1489-1500.	4.6	1
18	Learning Multimodal Contact-Rich Skills from Demonstrations Without Reward Engineering. , 2021, , .		3

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19	DESERTS: DElay-tolerant SEmi-autonomous Robot Teleoperation for Surgery. , 2021, , .		9
20	ZF-SSE: A Unified Sequential Semantic Encoder for Zero-Few-Shot Learning. , 2021, , .		2
21	Eye-Tracking Metrics Predict Perceived Workload in Robotic Surgical Skills Training. Human Factors, 2020, 62, 1365-1386.	3.5	64
22	The System for Telementoring with Augmented Reality (STAR): A head-mounted display to improve surgical coaching and confidence in remote areas. Surgery, 2020, 167, 724-731.	1.9	44
23	Evaluation of an augmented reality platform for austere surgical telementoring: a randomized controlled crossover study in cricothyroidotomies. Npj Digital Medicine, 2020, 3, 75.	10.9	30
24	How About the Mentor? Effective Workspace Visualization in AR Telementoring. , 2020, , .		8
25	How About the Mentor? Effective Workspace Visualization in AR Telementoring. , 2020, , .		1
26	Agreement Study Using Gesture Description Analysis. IEEE Transactions on Human-Machine Systems, 2020, 50, 434-443.	3.5	4
27	A Randomized Trial of Mentored vs Nonmentored Military Medics Compared in the Application of a Wound Clamp Without Prior Training: When to Shut Up and Just Watch!. Military Medicine, 2020, 185, 67-72.	0.8	9
28	Telementoring in Leg Fasciotomies via Mixed-Reality: Clinical Evaluation of the STAR Platform. Military Medicine, 2020, 185, 513-520.	0.8	17
29	Classification of Blind Usersâ€™ Image Exploratory Behaviors Using Spiking Neural Networks. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 1032-1041.	4.9	1
30	Electrophysiological indicators of gesture perception. Experimental Brain Research, 2020, 238, 537-550.	1.5	1
31	Beyond MAGIC: Matching Collaborative Gestures using an optimization-based Approach. , 2020, , .		1
32	Feature Selection for Zero-Shot Gesture Recognition. , 2020, , .		4
33	The MAGIC of E-Health: A Gesture-Based Approach to Estimate Understanding and Performance in Remote Ultrasound Tasks. , 2020, , .		1
34	Multimodal Physiological Signals for Workload Prediction in Robot-assisted Surgery. ACM Transactions on Human-Robot Interaction, 2020, 9, 1-26.	4.1	29
35	The AI-Medic: A Multimodal Artificial Intelligent Mentor for Trauma Surgery. , 2020, , .		0
36	Gesture Agreement Assessment Using Description Vectors. , 2020, , .		2

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37	MAGIC: A Fundamental Framework for Gesture Representation, Comparison and Assessment. , 2019, , .		5
38	Preference elicitation: Obtaining gestural guidelines for PACS in neurosurgery. International Journal of Medical Informatics, 2019, 130, 103934.	3.3	4
39	Database of Gesture Attributes: Zero Shot Learning for Gesture Recognition. , 2019, , .		8
40	Robust High-Level Video Stabilization for Effective AR Telementoring. , 2019, , .		0
41	Spiking Neural Networks for early prediction in humanâ€"robot collaboration. International Journal of Robotics Research, 2019, 38, 1619-1643.	8.5	11
42	Augmented Reality as a Medium for Improved Telementoring. Military Medicine, 2019, 184, 57-64.	0.8	12
43	DESK: A Robotic Activity Dataset for Dexterous Surgical Skills Transfer to Medical Robots. , 2019, , .		17
44	Extending Policy from One-Shot Learning through Coaching. , 2019, , .		4
45	JISAP: Joint Inference for Surgeon Attributes Prediction during Robot-Assisted Surgery. , 2019, , .		0
46	Transferring Dexterous Surgical Skill Knowledge between Robots for Semi-autonomous Teleoperation. , 2019, , .		12
47	Augmented Reality Future Step Visualization for Robust Surgical Telementoring. Simulation in Healthcare, 2019, 14, 59-66.	1.2	20
48	Surgical Telementoring Without Encumbrance. Annals of Surgery, 2019, 270, 384-389.	4.2	45
49	Early prediction for physical human robot collaboration in the operating room. Autonomous Robots, 2018, 42, 977-995.	4.8	24
50	Coherence in One-Shot Gesture Recognition for Human-Robot Interaction. , 2018, , .		0
51	Collaborative Robots in Surgical Research. , 2018, , .		9
52	Variability Analysis on Gestures for People With Quadriplegia. IEEE Transactions on Cybernetics, 2018, 48, 346-356.	9.5	8
53	A First-Person Mentee Second-Person Mentor AR Interface for Surgical Telementoring. , 2018, , .		16
54	Hard Zero Shot Learning for Gesture Recognition. , 2018, , .		6

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55	Image Exploration Procedure Classification with Spike-timing Neural Network for the Blind. , 2018, , .		4
56	Augmented Visual Instruction for Surgical Practice and Training. , 2018, , .		5
57	Early Turn-Taking Prediction with Spiking Neural Networks for Human Robot Collaboration. , 2018, , .		6
58	Looking Beyond the Gesture: Vocabulary Acceptability Criteria for Gesture Elicitation Studies. Proceedings of the Human Factors and Ergonomics Society, 2018, 62, 997-1001.	0.3	2
59	Joint Surgeon Attributes Estimation in Robot-Assisted Surgery. , 2018, , .		4
60	Deep Learning for Moving Object Detection and Tracking from a Single Camera in Unmanned Aerial Vehicles (UAVs). IS&T International Symposium on Electronic Imaging, 2018, 30, 466-1-466-6.	0.4	34
61	Gestures for Picture Archiving and Communication Systems (PACS) operation in the operating room: Is there any standard?. PLoS ONE, 2018, 13, e0198092.	2.5	18
62	Biomechanical-Based Approach to Data Augmentation for One-Shot Gesture Recognition. , 2018, , .		4
63	Taxonomy of Communications in the Operating Room. Advances in Intelligent Systems and Computing, 2018, , 251-262.	0.6	3
64	Multimodal Perception of Histological Images for Persons Who Are Blind or Visually Impaired. ACM Transactions on Accessible Computing, 2017, 9, 1-27.	2.4	6
65	The Effect of Embodied Interaction in Visual-Spatial Navigation. ACM Transactions on Interactive Intelligent Systems, 2017, 7, 1-36.	3.7	12
66	Needle in a haystack: Interactive surgical instrument recognition through perception and manipulation. Robotics and Autonomous Systems, 2017, 97, 182-192.	5.1	14
67	A Semantical & Analytical Approach for Zero Shot Gesture Learning. , 2017, , .		8
68	What Makes a Gesture a Gesture? Neural Signatures Involved in Gesture Recognition. , 2017, , .		7
69	One-Shot Gesture Recognition: One Step Towards Adaptive Learning. , 2017, , .		6
70	A Human-Centered Approach to One-Shot Gesture Learning. Frontiers in Robotics and AI, 2017, 4, .	3.2	13
71	An Augmented Reality-Based Approach for Surgical Telementoring in Austere Environments. Military Medicine, 2017, 182, 310-315.	0.8	35
72	ZSGL: zero shot gestural learning. , 2017, , .		13

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73	An optimized real-time hands gesture recognition based interface for individuals with upper-level spinal cord injuries. Journal of Real-Time Image Processing, 2016, 11, 301-314.	3.5	3
74	A Hand-Held, Self-Contained Simulated Transparent Display. , 2016, , .		5
75	Embodied gesture learning from one-shot. , 2016, , .		5
76	Multi-target detection and tracking from a single camera in Unmanned Aerial Vehicles (UAVs). , 2016, , .		58
77	Introduction to Special Issue on Body Tracking and Healthcare. Human-Computer Interaction, 2016, 31, 173-190.	4.4	3
78	Enhanced control of a wheelchair-mounted robotic manipulator using 3-D vision and multimodal interaction. Computer Vision and Image Understanding, 2016, 149, 21-31.	4.7	28
79	Virtual annotations of the surgical field through an augmented reality transparent display. Visual Computer, 2016, 32, 1481-1498.	3.5	29
80	Medical telementoring using an augmented reality transparent display. Surgery, 2016, 159, 1646-1653.	1.9	68
81	Optimal Modality Selection for Cooperative Humanâ€"Robot Task Completion. IEEE Transactions on Cybernetics, 2016, 46, 3388-3400.	9.5	5
82	User-Centered and Analytic-Based Approaches to Generate Usable Gestures for Individuals With Quadriplegia. IEEE Transactions on Human-Machine Systems, 2016, 46, 460-466.	3.5	7
83	Special issue on real-time image and video processing for pattern recognition systems and applications. Journal of Real-Time Image Processing, 2016, 11, 247-249.	3.5	1
84	A Comparative Study for Telerobotic Surgery Using Free Hand Gestures. Journal of Human-robot Interaction, 2016, 5, 1.	2.0	14
85	A Comparative Study for Touchless Telerobotic Surgery. , 2016, , 235-255.		0
86	A User-Developed 3-D Hand Gesture Set for Humanâ€"Computer Interaction. Human Factors, 2015, 57, 607-621.	3.5	47
87	Determining natural and accessible gestures using uncontrolled manifolds and cybernetics. , 2015, , .		1
88	Model-Based System Specification With Tesperanto: Readable Text From Formal Graphics. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2015, 45, 1448-1458.	9.3	12
89	An augmented reality approach to surgical telementoring. , 2014, , .		2
90	Linking attention to physical action in complex decision making problems. , 2014, , .		2

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91	Operation room tool handling and miscommunication scenarios: An object-process methodology conceptual model. Artificial Intelligence in Medicine, 2014, 62, 153-163.	6.5	7
92	Telerobot-enabled HUB-CI model for collaborative lifecycle management of design and prototyping. Computers in Industry, 2014, 65, 550-562.	9.9	17
93	HEGM: A hierarchical elastic graph matching for hand gesture recognition. Pattern Recognition, 2014, 47, 80-88.	8.1	30
94	Context-based hand gesture recognition for the operating room. Pattern Recognition Letters, 2014, 36, 196-203.	4.2	66
95	Integrated vision-based system for efficient, semi-automated control of a robotic manipulator. International Journal of Intelligent Computing and Cybernetics, 2014, 7, 253-266.	2.7	6
96	A Machine Vision-Based Gestural Interface for People With Upper Extremity Physical Impairments. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2014, 44, 630-641.	9.3	29
97	Multimodal approach to image perception of histology for the blind or visually impaired. , 2014, , .		1
98	Optimal modality selection for multimodal human-machine systems using RIMAG. , 2014, , .		2
99	An analytic approach to decipher usable gestures for quadriplegic users. , 2014, , .		5
100	Gaze, Posture and Gesture Recognition to Minimize Focus Shifts for Intelligent Operating Rooms in a Collaborative Support System. International Journal of Computers, Communications and Control, 2014, 5, 106.	1.8	12
101	Recognizing hand gestures using the weighted elastic graph matching (WEGM) method. Image and Vision Computing, 2013, 31, 649-657.	4.5	11
102	Collaboration with a robotic scrub nurse. Communications of the ACM, 2013, 56, 68-75.	4.5	23
103	A Cyber-Physical Management System for Delivering and Monitoring Surgical Instruments in the OR. Surgical Innovation, 2013, 20, 377-384.	0.9	18
104	Integrated vision-based robotic arm interface for operators with upper limb mobility impairments. , 2013, 2013, 6650447.		16
105	A collaborative telerobotics network framework with hand gesture interface and conflict prevention. International Journal of Production Research, 2013, 51, 4443-4463.	7.5	20
106	Hand-gesture-based sterile interface for the operating room using contextual cues for the navigation of radiological images. Journal of the American Medical Informatics Association: JAMIA, 2013, 20, e183-e186.	4.4	55
107	Smart instrumented training ranges: bringing automated system solutions to support critical domain needs. Journal of Defense Modeling and Simulation, 2013, 10, 327-342.	1.7	6
108	Laser and Photonic Systems Integration: Emerging Innovations and Framework for Research and Education. Human Factors and Ergonomics in Manufacturing, 2013, 23, 483-516.	2.7	7

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109	Surgical instrument handling and retrieval in the operating room with a multimodal robotic assistant. , 2013, , .		5
110	3D joystick for robotic arm control by individuals with high level spinal cord injuries. , 2013, 2013, 6650432.		9
111	HUB-CI Model for Collaborative Telerobotics in Manufacturing. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 63-68.	0.4	8
112	The Improvement and Application of Intelligence Tracking Algorithm for Moving Logistics Objects Based on Machine Vision Sensor. Sensor Letters, 2013, 11, 862-869.	0.4	1
113	Telementoring systems in the operating room: a new approach in medical training. Medicina, 2013, 73, 539-42.	0.6	3
114	Gestonurse. , 2012, , .		18
115	Does a robotic scrub nurse improve economy of movements?. , 2012, , .		5
116	Hierarchical Elastic Graph Matching for Hand Gesture Recognition. Lecture Notes in Computer Science, 2012, , 308-315.	1.3	4
117	Intention, Context and Gesture Recognition for Sterile MRI Navigation in the Operating Room. Lecture Notes in Computer Science, 2012, , 220-227.	1.3	12
118	Gestonurse: a robotic surgical nurse for handling surgical instruments in the operating room. Journal of Robotic Surgery, 2012, 6, 53-63.	1.8	40
119	Facilitated Gesture Recognition Based Interfaces for People with Upper Extremity Physical Impairments. Lecture Notes in Computer Science, 2012, , 228-235.	1.3	7
120	Robot, Pass Me the Scissors! How Robots Can Assist Us in the Operating Room. Lecture Notes in Computer Science, 2012, , 46-57.	1.3	0
121	Vision-based hand-gesture applications. Communications of the ACM, 2011, 54, 60-71.	4.5	529
122	A gesture driven robotic scrub nurse. , 2011, , .		19
123	Using autonomous robots to enable self-organizing broadband networks. , 2010, , .		1
124	Human posture recognition for intelligent vehicles. Journal of Real-Time Image Processing, 2010, 5, 231-244.	3.5	10
125	Low and high-level visual feature-based apple detection from multi-modal images. Precision Agriculture, 2010, 11, 717-735.	6.0	91
126	“A window on tissue” - Using facial orientation to control endoscopic views of tissue depth. , 2010, 2010, 935-8.		2

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127	AWARE: Autonomous Wireless Agent Robotic Exchange. Lecture Notes in Computer Science, 2010, , 276-287.	1.3	3
128	Multi-modal Registration Using a Combined Similarity Measure. Advances in Soft Computing, 2009, , 159-168.	0.4	4
129	A Method for Selection of Optimal Hand Gesture Vocabularies. Lecture Notes in Computer Science, 2009, , 57-68.	1.3	8
130	The Multi-level Learning and Classification of Multi-class Parts-Based Representations of U.S. Marine Postures. Lecture Notes in Computer Science, 2009, , 505-512.	1.3	0
131	Optimal Consensus Intuitive Hand Gesture Vocabulary Design. , 2008, , .		37
132	A Gesture-based Tool for Sterile Browsing of Radiology Images. Journal of the American Medical Informatics Association: JAMIA, 2008, 15, 321-323.	4.4	83
133	DESIGNING HAND GESTURE VOCABULARIES FOR NATURAL INTERACTION BY COMBINING PSYCHO-PHYSIOLOGICAL AND RECOGNITION FACTORS. International Journal of Semantic Computing, 2008, 02, 137-160.	0.5	25
134	Real-Time Hand Gesture Interface for Browsing Medical Images. International Journal of Intelligent Computing in Medical Sciences and Image Processing, 2008, 2, 15-25.	0.5	7
135	Gestix: A Doctor-Computer Sterile Gesture Interface for Dynamic Environments. , 2007, , 30-39.		16
136	Human Factors for Design of Hand Gesture Human - Machine Interaction. , 2006, , .		13
137	A Method to Enhance the â€˜Possibilistic C-Means with Repulsionâ€™ Algorithm based on Cluster Validity Index. , 2006, , 77-87.		4
138	A Real-Time Hand Gesture Interface for Medical Visualization Applications. Advances in Intelligent and Soft Computing, 2006, , 153-162.	0.2	44
139	Cluster Labeling and Parameter Estimation for the Automated Setup of a Hand-Gesture Recognition System. IEEE Transactions on Systems, Man and Cybernetics, Part A: Systems and Humans, 2005, 35, 932-944.	2.9	45
140	COLOR FACE SEGMENTATION USING A FUZZY MIN-MAX NEURAL NETWORK. International Journal of Image and Graphics, 2002, 02, 587-601.	1.5	1