

Juan P Wachs

List of Publications by Year in descending order

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Version: 2024-02-01

140
papers

2,371
citations

304368

22
h-index

264894

42
g-index

142
all docs

142
docs citations

142
times ranked

1938
citing authors

#	ARTICLE	IF	CITATIONS
1	Vision-based hand-gesture applications. Communications of the ACM, 2011, 54, 60-71.	3.3	529
2	Low and high-level visual feature-based apple detection from multi-modal images. Precision Agriculture, 2010, 11, 717-735.	3.1	91
3	A Gesture-based Tool for Sterile Browsing of Radiology Images. Journal of the American Medical Informatics Association: JAMIA, 2008, 15, 321-323.	2.2	83
4	Medical telementoring using an augmented reality transparent display. Surgery, 2016, 159, 1646-1653.	1.0	68
5	Context-based hand gesture recognition for the operating room. Pattern Recognition Letters, 2014, 36, 196-203.	2.6	66
6	Eye-Tracking Metrics Predict Perceived Workload in Robotic Surgical Skills Training. Human Factors, 2020, 62, 1365-1386.	2.1	64
7	Multi-target detection and tracking from a single camera in Unmanned Aerial Vehicles (UAVs). , 2016, , .		58
8	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.	2.2	55
9	A User-Developed 3-D Hand Gesture Set for Human-Computer Interaction. Human Factors, 2015, 57, 607-621.	2.1	47
10	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.	3.4	45
11	Surgical Telementoring Without Encumbrance. Annals of Surgery, 2019, 270, 384-389.	2.1	45
12	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.	1.0	44
13	A Real-Time Hand Gesture Interface for Medical Visualization Applications. Advances in Intelligent and Soft Computing, 2006, , 153-162.	0.2	44
14	Gestonurse: a robotic surgical nurse for handling surgical instruments in the operating room. Journal of Robotic Surgery, 2012, 6, 53-63.	1.0	40
15	Optimal Consensus Intuitive Hand Gesture Vocabulary Design. , 2008, , .		37
16	An Augmented Reality-Based Approach for Surgical Telementoring in Austere Environments. Military Medicine, 2017, 182, 310-315.	0.4	35
17	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.	0.3	34
18	HEGM: A hierarchical elastic graph matching for hand gesture recognition. Pattern Recognition, 2014, 47, 80-88.	5.1	30

#	ARTICLE	IF	CITATIONS
19	Evaluation of an augmented reality platform for austere surgical telementoring: a randomized controlled crossover study in cricothyroidotomies. <i>Npj Digital Medicine</i> , 2020, 3, 75.	5.7	30
20	A Machine Vision-Based Gestural Interface for People With Upper Extremity Physical Impairments. <i>IEEE Transactions on Systems, Man, and Cybernetics: Systems</i> , 2014, 44, 630-641.	5.9	29
21	Virtual annotations of the surgical field through an augmented reality transparent display. <i>Visual Computer</i> , 2016, 32, 1481-1498.	2.5	29
22	Multimodal Physiological Signals for Workload Prediction in Robot-assisted Surgery. <i>ACM Transactions on Human-Robot Interaction</i> , 2020, 9, 1-26.	3.2	29
23	Enhanced control of a wheelchair-mounted robotic manipulator using 3-D vision and multimodal interaction. <i>Computer Vision and Image Understanding</i> , 2016, 149, 21-31.	3.0	28
24	DESIGNING HAND GESTURE VOCABULARIES FOR NATURAL INTERACTION BY COMBINING PSYCHO-PHYSIOLOGICAL AND RECOGNITION FACTORS. <i>International Journal of Semantic Computing</i> , 2008, 02, 137-160.	0.4	25
25	Early prediction for physical human robot collaboration in the operating room. <i>Autonomous Robots</i> , 2018, 42, 977-995.	3.2	24
26	Collaboration with a robotic scrub nurse. <i>Communications of the ACM</i> , 2013, 56, 68-75.	3.3	23
27	A collaborative telerobotics network framework with hand gesture interface and conflict prevention. <i>International Journal of Production Research</i> , 2013, 51, 4443-4463.	4.9	20
28	Augmented Reality Future Step Visualization for Robust Surgical Telementoring. <i>Simulation in Healthcare</i> , 2019, 14, 59-66.	0.7	20
29	A gesture driven robotic scrub nurse. , 2011, , .		19
30	Gestonurse. , 2012, , .		18
31	A Cyber-Physical Management System for Delivering and Monitoring Surgical Instruments in the OR. <i>Surgical Innovation</i> , 2013, 20, 377-384.	0.4	18
32	Gestures for Picture Archiving and Communication Systems (PACS) operation in the operating room: Is there any standard?. <i>PLoS ONE</i> , 2018, 13, e0198092.	1.1	18
33	Telerobot-enabled HUB-CI model for collaborative lifecycle management of design and prototyping. <i>Computers in Industry</i> , 2014, 65, 550-562.	5.7	17
34	DESK: A Robotic Activity Dataset for Dexterous Surgical Skills Transfer to Medical Robots. , 2019, , .		17
35	Telementoring in Leg Fasciotomies via Mixed-Reality: Clinical Evaluation of the STAR Platform. <i>Military Medicine</i> , 2020, 185, 513-520.	0.4	17
36	Integrated vision-based robotic arm interface for operators with upper limb mobility impairments. , 2013, 2013, 6650447.		16

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37	A First-Person Mentee Second-Person Mentor AR Interface for Surgical Telementoring. , 2018, , .		16
38	Fast and Robust UAV to UAV Detection and Tracking From Video. IEEE Transactions on Emerging Topics in Computing, 2022, 10, 1519-1531.	3.2	16
39	Gestix: A Doctor-Computer Sterile Gesture Interface for Dynamic Environments. , 2007, , 30-39.		16
40	Needle in a haystack: Interactive surgical instrument recognition through perception and manipulation. Robotics and Autonomous Systems, 2017, 97, 182-192.	3.0	14
41	A Comparative Study for Telerobotic Surgery Using Free Hand Gestures. Journal of Human-robot Interaction, 2016, 5, 1.	2.0	14
42	Human Factors for Design of Hand Gesture Human - Machine Interaction. , 2006, , .		13
43	A Human-Centered Approach to One-Shot Gesture Learning. Frontiers in Robotics and AI, 2017, 4, .	2.0	13
44	ZSGL: zero shot gestural learning. , 2017, , .		13
45	Intention, Context and Gesture Recognition for Sterile MRI Navigation in the Operating Room. Lecture Notes in Computer Science, 2012, , 220-227.	1.0	12
46	Model-Based System Specification With Tesperanto: Readable Text From Formal Graphics. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2015, 45, 1448-1458.	5.9	12
47	The Effect of Embodied Interaction in Visual-Spatial Navigation. ACM Transactions on Interactive Intelligent Systems, 2017, 7, 1-36.	2.6	12
48	Augmented Reality as a Medium for Improved Telementoring. Military Medicine, 2019, 184, 57-64.	0.4	12
49	Transferring Dexterous Surgical Skill Knowledge between Robots for Semi-autonomous Teleoperation. , 2019, , .		12
50	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.	1.2	12
51	Recognizing hand gestures using the weighted elastic graph matching (WEGM) method. Image and Vision Computing, 2013, 31, 649-657.	2.7	11
52	Spiking Neural Networks for early prediction in human-robot collaboration. International Journal of Robotics Research, 2019, 38, 1619-1643.	5.8	11
53	Human posture recognition for intelligent vehicles. Journal of Real-Time Image Processing, 2010, 5, 231-244.	2.2	10
54	From the Dexterous Surgical Skill to the Battlefield- A Robotics Exploratory Study. Military Medicine, 2021, 186, 288-294.	0.4	10

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55	3D joystick for robotic arm control by individuals with high level spinal cord injuries. , 2013, 2013, 6650432.		9
56	Collaborative Robots in Surgical Research. , 2018, , .		9
57	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.	0.4	9
58	DESERTS: DELay-tolerant SEMi-autonomous Robot Teleoperation for Surgery. , 2021, , .		9
59	HUB-CI Model for Collaborative Telerobotics in Manufacturing. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2013, 46, 63-68.	0.4	8
60	A Semantical & Analytical Approach for Zero Shot Gesture Learning. , 2017, , .		8
61	Variability Analysis on Gestures for People With Quadriplegia. IEEE Transactions on Cybernetics, 2018, 48, 346-356.	6.2	8
62	Database of Gesture Attributes: Zero Shot Learning for Gesture Recognition. , 2019, , .		8
63	How About the Mentor? Effective Workspace Visualization in AR Telementoring. , 2020, , .		8
64	Procedural Telementoring in Rural, Underdeveloped, and Austere Settings: Origins, Present Challenges, and Future Perspectives. Annual Review of Biomedical Engineering, 2021, 23, 115-139.	5.7	8
65	A Method for Selection of Optimal Hand Gesture Vocabularies. Lecture Notes in Computer Science, 2009, , 57-68.	1.0	8
66	Nonmyopic Informative Path Planning Based on Global Kriging Variance Minimization. IEEE Robotics and Automation Letters, 2022, 7, 1768-1775.	3.3	8
67	Laser and Photonic Systems Integration: Emerging Innovations and Framework for Research and Education. Human Factors and Ergonomics in Manufacturing, 2013, 23, 483-516.	1.4	7
68	Operation room tool handling and miscommunication scenarios: An object-process methodology conceptual model. Artificial Intelligence in Medicine, 2014, 62, 153-163.	3.8	7
69	User-Centered and Analytic-Based Approaches to Generate Usable Gestures for Individuals With Quadriplegia. IEEE Transactions on Human-Machine Systems, 2016, 46, 460-466.	2.5	7
70	What Makes a Gesture a Gesture? Neural Signatures Involved in Gesture Recognition. , 2017, , .		7
71	Facilitated Gesture Recognition Based Interfaces for People with Upper Extremity Physical Impairments. Lecture Notes in Computer Science, 2012, , 228-235.	1.0	7
72	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

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73	Smart instrumented training ranges: bringing automated system solutions to support critical domain needs. <i>Journal of Defense Modeling and Simulation</i> , 2013, 10, 327-342.	1.2	6
74	Integrated vision-based system for efficient, semi-automated control of a robotic manipulator. <i>International Journal of Intelligent Computing and Cybernetics</i> , 2014, 7, 253-266.	1.6	6
75	Multimodal Perception of Histological Images for Persons Who Are Blind or Visually Impaired. <i>ACM Transactions on Accessible Computing</i> , 2017, 9, 1-27.	1.9	6
76	One-Shot Gesture Recognition: One Step Towards Adaptive Learning. , 2017, , .		6
77	Hard Zero Shot Learning for Gesture Recognition. , 2018, , .		6
78	Early Turn-Taking Prediction with Spiking Neural Networks for Human Robot Collaboration. , 2018, , .		6
79	SARTRES: a semi-autonomous robot teleoperation environment for surgery. <i>Computer Methods in Biomechanics and Biomedical Engineering: Imaging and Visualization</i> , 2021, 9, 376-383.	1.3	6
80	Does a robotic scrub nurse improve economy of movements?. , 2012, , .		5
81	Surgical instrument handling and retrieval in the operating room with a multimodal robotic assistant. , 2013, , .		5
82	An analytic approach to decipher usable gestures for quadriplegic users. , 2014, , .		5
83	A Hand-Held, Self-Contained Simulated Transparent Display. , 2016, , .		5
84	Embodied gesture learning from one-shot. , 2016, , .		5
85	Optimal Modality Selection for Cooperative Human-Robot Task Completion. <i>IEEE Transactions on Cybernetics</i> , 2016, 46, 3388-3400.	6.2	5
86	Augmented Visual Instruction for Surgical Practice and Training. , 2018, , .		5
87	MAGIC: A Fundamental Framework for Gesture Representation, Comparison and Assessment. , 2019, , .		5
88	A Method to Enhance the "Possibilistic C-Means with Repulsion"™ Algorithm based on Cluster Validity Index. , 2006, , 77-87.		4
89	Hierarchical Elastic Graph Matching for Hand Gesture Recognition. <i>Lecture Notes in Computer Science</i> , 2012, , 308-315.	1.0	4
90	Image Exploration Procedure Classification with Spike-timing Neural Network for the Blind. , 2018, , .		4

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91	Joint Surgeon Attributes Estimation in Robot-Assisted Surgery. , 2018, , .		4
92	Biomechanical-Based Approach to Data Augmentation for One-Shot Gesture Recognition. , 2018, , .		4
93	Preference elicitation: Obtaining gestural guidelines for PACS in neurosurgery. International Journal of Medical Informatics, 2019, 130, 103934.	1.6	4
94	Extending Policy from One-Shot Learning through Coaching. , 2019, , .		4
95	Agreement Study Using Gesture Description Analysis. IEEE Transactions on Human-Machine Systems, 2020, 50, 434-443.	2.5	4
96	The AI-Medic: an artificial intelligent mentor for trauma surgery. Computer Methods in Biomechanics and Biomedical Engineering: Imaging and Visualization, 2021, 9, 313-321.	1.3	4
97	Multi-modal Registration Using a Combined Similarity Measure. Advances in Soft Computing, 2009, , 159-168.	0.4	4
98	Feature Selection for Zero-Shot Gesture Recognition. , 2020, , .		4
99	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.	0.7	4
100	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.	2.2	3
101	Introduction to Special Issue on Body Tracking and Healthcare. Human-Computer Interaction, 2016, 31, 173-190.	3.1	3
102	SACHETS: Semi-Autonomous Cognitive Hybrid Emergency Teleoperated Suction. , 2021, , .		3
103	Taxonomy of Communications in the Operating Room. Advances in Intelligent Systems and Computing, 2018, , 251-262.	0.5	3
104	AWARE: Autonomous Wireless Agent Robotic Exchange. Lecture Notes in Computer Science, 2010, , 276-287.	1.0	3
105	Learning Multimodal Contact-Rich Skills from Demonstrations Without Reward Engineering. , 2021, , .		3
106	Telementoring systems in the operating room: a new approach in medical training. Medicina, 2013, 73, 539-42.	0.6	3
107	“A window on tissue” - Using facial orientation to control endoscopic views of tissue depth. , 2010, 2010, 935-8.		2
108	An augmented reality approach to surgical telementoring. , 2014, , .		2

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109	Linking attention to physical action in complex decision making problems. , 2014, , .		2
110	Optimal modality selection for multimodal human-machine systems using RIMAG. , 2014, , .		2
111	Looking Beyond the Gesture: Vocabulary Acceptability Criteria for Gesture Elicitation Studies. Proceedings of the Human Factors and Ergonomics Society, 2018, 62, 997-1001.	0.2	2
112	JSE: Joint Semantic Encoder for zero-shot gesture learning. Pattern Analysis and Applications, 2022, 25, 679-692.	3.1	2
113	Gesture Agreement Assessment Using Description Vectors. , 2020, , .		2
114	ZF-SSE: A Unified Sequential Semantic Encoder for Zero-Few-Shot Learning. , 2021, , .		2
115	Touchless Interfaces in the Operating Room: A Study in Gesture Preferences. International Journal of Human-Computer Interaction, 2023, 39, 438-448.	3.3	2
116	Active Multiobject Exploration and Recognition via Tactile Whiskers. IEEE Transactions on Robotics, 2022, 38, 3479-3497.	7.3	2
117	COLOR FACE SEGMENTATION USING A FUZZY MIN-MAX NEURAL NETWORK. International Journal of Image and Graphics, 2002, 02, 587-601.	1.2	1
118	Using autonomous robots to enable self-organizing broadband networks. , 2010, , .		1
119	Multimodal approach to image perception of histology for the blind or visually impaired. , 2014, , .		1
120	Determining natural and accessible gestures using uncontrolled manifolds and cybernetics. , 2015, , .		1
121	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.	2.2	1
122	How About the Mentor? Effective Workspace Visualization in AR Telementoring. , 2020, , .		1
123	Classification of Blind Usersâ€™ Image Exploratory Behaviors Using Spiking Neural Networks. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 1032-1041.	2.7	1
124	Electrophysiological indicators of gesture perception. Experimental Brain Research, 2020, 238, 537-550.	0.7	1
125	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.	3.3	1
126	ICONS: Imitation CONStraints for Robot Collaboration. , 2021, , .		1

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127	Dexterous Skill Transfer between Surgical Procedures for Teleoperated Robotic Surgery. , 2021, , .		1
128	Assessing task understanding in remote ultrasound diagnosis via gesture analysis. Pattern Analysis and Applications, 2021, 24, 1489-1500.	3.1	1
129	Beyond MAGIC: Matching Collaborative Gestures using an optimization-based Approach. , 2020, , .		1
130	The MAGIC of E-Health: A Gesture-Based Approach to Estimate Understanding and Performance in Remote Ultrasound Tasks. , 2020, , .		1
131	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
132	A neurotechnological aid for semi-autonomous suction in robotic-assisted surgery. Scientific Reports, 2022, 12, 4504.	1.6	1
133	Coherence in One-Shot Gesture Recognition for Human-Robot Interaction. , 2018, , .		0
134	Robust High-Level Video Stabilization for Effective AR Telementoring. , 2019, , .		0
135	JISAP: Joint Inference for Surgeon Attributes Prediction during Robot-Assisted Surgery. , 2019, , .		0
136	Assessing Collaborative Physical Tasks Via Gestural Analysis. IEEE Transactions on Human-Machine Systems, 2021, 51, 152-161.	2.5	0
137	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.	1.0	0
138	Robot, Pass Me the Scissors! How Robots Can Assist Us in the Operating Room. Lecture Notes in Computer Science, 2012, , 46-57.	1.0	0
139	A Comparative Study for Touchless Telerobotic Surgery. , 2016, , 235-255.		0
140	The AI-Medic: A Multimodal Artificial Intelligent Mentor for Trauma Surgery. , 2020, , .		0