Ravi Vaidyanathan

List of Publications by Year
in descending order

113 papers	1,693 citations	331259 21 h-index	395343 33 g-index
114 all docs	114 docs citations	114 times ranked	1500 citing authors

#	Article	IF	Citations
1	Impedance Modulation Control of a Lower-Limb Exoskeleton to Assist Sit-to-Stand Movements. IEEE Transactions on Robotics, 2022, 38, 1230-1249.	7.3	11
2	Emotive Response to a Hybrid-Face Robot and Translation to Consumer Social Robots. IEEE Internet of Things Journal, 2022, 9, 3174-3188.	5.5	8
3	Acceptability of Social Robots and Adaptation of Hybrid-Face Robot for Dementia Care in India: A Qualitative Study. American Journal of Geriatric Psychiatry, 2022, 30, 240-245.	0.6	9
4	Conversational Affective Social Robots for Ageing and Dementia Support. IEEE Transactions on Cognitive and Developmental Systems, 2022, 14, 1378-1397.	2.6	13
5	Exploration of EEG-Based Depression Biomarkers Identification Techniques and Their Applications: A Systematic Review. IEEE Access, 2022, 10, 16756-16781.	2.6	29
6	Synergistic Upper-Limb Functional Muscle Connectivity Using Acoustic Mechanomyography. IEEE Transactions on Biomedical Engineering, 2022, 69, 2569-2580.	2.5	4
7	Wearable MMG-Plus-One Armband: Evaluation of Normal Force on Mechanomyography (MMG) to Enhance Human-Machine Interfacing. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2021, 29, 196-205.	2.7	18
8	Model Predictive Control for Human-Centred Lower Limb Robotic Assistance. IEEE Transactions on Medical Robotics and Bionics, 2021, 3, 980-991.	2.1	13
9	Quantification of Motor Function Post-Stroke Using Novel Combination of Wearable Inertial and Mechanomyographic Sensors. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2021, 29, 1158-1167.	2.7	12
10	Robotic Telemedicine for Mental Health: A Multimodal Approach to Improve Human-Robot Engagement. Frontiers in Robotics and AI, 2021, 8, 618866.	2.0	23
11	Stiffness Modulation in a Humanoid Robotic Leg and Knee. IEEE Robotics and Automation Letters, 2021, 6, 2563-2570.	3.3	9
12	Human Joint Torque Modelling With MMG and EMG During Lower Limb Human-Exoskeleton Interaction. IEEE Robotics and Automation Letters, 2021, 6, 7185-7192.	3.3	24
13	Fusion Models for Generalized Classification of Multi-Axial Human Movement: Validation in Sport Performance. Sensors, 2021, 21, 8409.	2.1	8
14	The use of actograph in the assessment of fetal well-being. Journal of Maternal-Fetal and Neonatal Medicine, 2020, 33, 2116-2121.	0.7	6
15	Role of optimisation method on kinetic inverse modelling of biomass pyrolysis at the microscale. Fuel, 2020, 262, 116251.	3.4	34
16	Evaluating lubricant performance to reduce COVID-19 PPE-related skin injury. PLoS ONE, 2020, 15, e0239363.	1.1	18
17	Technological advancements and opportunities in Neuromarketing: a systematic review. Brain Informatics, 2020, 7, 10.	1.8	55
18	3D-Mechanomyography: Accessing Deeper Muscle Information Non-Invasively for Human-Machine Interfacing. , 2020, , .		3

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19	A Novel Fetal Movement Simulator for the Performance Evaluation of Vibration Sensors for Wearable Fetal Movement Monitors. Sensors, 2020, 20, 6020.	2.1	9
20	Telemonitoring Parkinson's disease using machine learning by combining tremor and voice analysis. Brain Informatics, 2020, 7, 12.	1.8	46
21	A Multimodal Intention Detection Sensor Suite for Shared Autonomy of Upper-Limb Robotic Prostheses. Sensors, 2020, 20, 6097.	2.1	16
22	An Extended Complementary Filter for Full-Body MARG Orientation Estimation. IEEE/ASME Transactions on Mechatronics, 2020, 25, 2054-2064.	3.7	55
23	Examination of the Performance Characteristics of Velostat as an In-Socket Pressure Sensor. IEEE Sensors Journal, 2020, 20, 6992-7000.	2.4	45
24	The Impact of ACL Laxity on a Bicondylar Robotic Knee and Implications in Human Joint Biomechanics. IEEE Transactions on Biomedical Engineering, 2020, 67, 2817-2827.	2.5	7
25	New advances in mechanomyography sensor technology and signal processing: Validity and intrarater reliability of recordings from muscle. Journal of Rehabilitation and Assistive Technologies Engineering, 2020, 7, 205566832091611.	0.6	7
26	A Heterogeneous Sensing Suite for Multisymptom Quantification of Parkinson's Disease. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 1397-1406.	2.7	42
27	Detection and Analysis of Fetal Movements Using an Acoustic Sensor-based Wearable Monitor. , 2020, , .		3
28	UPDRS Label Assignment by Analyzing Accelerometer Sensor Data Collected from Conventional Smartphones. Lecture Notes in Computer Science, 2020, , 173-182.	1.0	0
29	Surgical Robot Platform with a Novel Concentric Joint for Minimally Invasive Procedures. Journal of Medical Robotics Research, 2020, 05, 2050001.	1.0	0
30	Evaluating lubricant performance to reduce COVID-19 PPE-related skin injury. , 2020, 15, e0239363.		0
31	Evaluating lubricant performance to reduce COVID-19 PPE-related skin injury. , 2020, 15, e0239363.		0
32	Evaluating lubricant performance to reduce COVID-19 PPE-related skin injury. , 2020, 15, e0239363.		0
33	Evaluating lubricant performance to reduce COVID-19 PPE-related skin injury. , 2020, 15, e0239363.		0
34	Fusion of Enhanced and Synthetic Vision System Images for Runway and Horizon Detection. Sensors, 2019, 19, 3802.	2.1	14
35	Myographic Information Enables Hand Function Classification in Automated Fugl-Meyer Assessment. , 2019, , .		3
36	Formulation of a new gradient descent MARG orientation algorithm: Case study on robot teleoperation. Mechanical Systems and Signal Processing, 2019, 130, 183-200.	4.4	59

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37	Segmenting Mechanomyography Measures of Muscle Activity Phases Using Inertial Data. Scientific Reports, 2019, 9, 5569.	1.6	28
38	P4‑630: USE OF A HYBRID FACE ROBOT IN DEMENTIA CARE: UNDERSTANDING FEASIBILITY IN INDIA. Alzheimer's and Dementia, 2019, 15, P1569.	0.4	1
39	A Kinematic Model for the Design of a Bicondylar Mechanical Knee. , 2018, , .		9
40	Subject-Independent Data Pooling in Classification of Gait Intent Using Mechanomyography on a Transtibial Amputee. , 2018, , .		2
41	Unilateral Inertial and Muscle Activity Sensor Fusion for Gait Cycle Progress Estimation*. , 2018, , .		1
42	A biomimicking design for mechanical knee joints. Bioinspiration and Biomimetics, 2018, 13, 056012.	1.5	11
43	Performance of a wearable acoustic system for fetal movement discrimination. PLoS ONE, 2018, 13, e0195728.	1.1	20
44	Telehealth, Wearable Sensors, and the Internet: Will They Improve Stroke Outcomes Through Increased Intensity of Therapy, Motivation, and Adherence to Rehabilitation Programs?. Journal of Neurologic Physical Therapy, 2017, 41, S32-S38.	0.7	57
45	Automated assessment of symptom severity changes during deep brain stimulation (DBS) therapy for Parkinson's disease. , 2017, 2017, 1512-1517.		23
46	Pervasive Monitoring of Motion and Muscle Activation: Inertial and Mechanomyography Fusion. IEEE/ASME Transactions on Mechatronics, 2017, 22, 2022-2033.	3.7	44
47	Hand gesture recognition with convolutional neural networks for the multimodal UAV control. , 2017, , .		26
48	Improved formulation of the IMU and MARG orientation gradient descent algorithm for motion tracking in human-machine interfaces. , 2017, , .		14
49	Upper-limb prosthetic control using wearable multichannel mechanomyography. , 2017, 2017, 1293-1298.		35
50	Challenges in using compliant ligaments for position estimation within robotic joints. , 2017, 2017, 1471-1476.		5
51	Gesture Recognition Through Classification of Acoustic Muscle Sensing for Prosthetic Control. Lecture Notes in Computer Science, 2017, , 637-642.	1.0	8
52	Predicting movement and laterality from Deep Brain Local Field Potentials. , 2016, , .		1
53	Fetal movements as a predictor of health. Acta Obstetricia Et Gynecologica Scandinavica, 2016, 95, 968-975.	1.3	42
54	A Wearable Automated System to Quantify Parkinsonian Symptoms Enabling Closed Loop Deep Brain Stimulation. Lecture Notes in Computer Science, 2016, , 8-19.	1.0	3

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55	Integrated grip switching and grasp control for prosthetic hands using fused inertial and mechanomyography measurement. , 2015, , .		10
56	Rapid bicycle gear switching based on physiological cues. , 2015, , .		2
57	Modelling and control of a water jet cutting probe for flexible surgical robot. , 2015, , .		3
58	Biorobotics with Hybrid and Multimodal Locomotion [TC Spotlight]. IEEE Robotics and Automation Magazine, 2015, 22, 29-181.	2.2	2
59	Motion-based grasp selection: Improving traditional control strategies of myoelectric hand prosthesis. , 2015, , .		4
60	Impact of Marine Locomotion Constraints on a Bio-inspired Aerial-Aquatic Wing: Experimental Performance Verification. Journal of Mechanisms and Robotics, 2014, 6, .	1.5	16
61	Flexible robotic device for spinal surgery. , 2014, , .		2
62	An unobtrusive vision system to reduce the cognitive burden of hand prosthesis control. , 2014, , .		4
63	Pervasive Motion Tracking and Muscle Activity Monitor. , 2014, , .		12
64	An automated approach towards detecting complex behaviours in deep brain oscillations. Journal of Neuroscience Methods, 2014, 224, 66-78.	1.3	5
65	A Novel Acoustic Interface for Bionic Hand Control. Lecture Notes in Computer Science, 2014, , 296-297.	1.0	3
66	Augmenting neuroprosthetic hand control through evaluation of a bioacoustic interface. , 2013, , .		0
67	A heterogeneous framework for real-time decoding of bioacoustic signals: Applications to assistive interfaces and prosthesis control. Expert Systems With Applications, 2013, 40, 5049-5060.	4.4	13
68	Measuring motion with kinematically redundant accelerometer arrays: Theory, simulation and implementation. Mechatronics, 2013, 23, 518-529.	2.0	37
69	Pairwise diversity ranking of polychotomous features for ensemble physiological signal classifiers. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2013, 227, 655-662.	1.0	2
70	A Bio-Inspired Condylar Hinge for Robotic Limbs. Journal of Mechanisms and Robotics, 2013, 5, .	1.5	21
71	Design and experimental verification of a biologically inspired multi-modal wing for aerial-aquatic robotic vehicles. , 2012, , .		6
72	A reflexive vehicle control architecture based on a neural model of the cockroach escape response. Proceedings of the Institution of Mechanical Engineers Part I: Journal of Systems and Control Engineering, 2012, 226, 699-718.	0.7	4

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73	Multi-objective design optimisation: getting more for less. Proceedings of the Institution of Civil Engineers: Civil Engineering, 2012, 165, 5-10.	0.3	11
74	SeaDog: A rugged mobile robot for surf-zone applications. , 2012, , .		18
75	A case study exploring regulated energy use in domestic buildings using design-of-experiments and multi-objective optimisation. Building and Environment, 2012, 54, 126-136.	3.0	54
76	Robust real-time identification of tongue movement commands from interferences. Neurocomputing, 2012, 80, 83-92.	3.5	10
77	Sensitivity Analysis of a Parametric Hand Exoskeleton Designed to Match Natural Human Grasping Motion. Lecture Notes in Computer Science, 2012, , 390-401.	1.0	5
78	Design, Simulation, Fabrication and Testing of a Bio-Inspired Amphibious Robot with Multiple Modes of Mobility. Journal of Robotics and Mechatronics, 2012, 24, 629-641.	0.5	9
79	Quantification of the benefits of a compliant foil for underwater flapping wing propulsion. , 2011, , .		2
80	Sensor suites for assistive arm prosthetics. , 2011, , .		15
81	Parametric design of an active ankle foot orthosis with passive compliance. , 2011, , .		13
82	A bio-inspired condylar hinge joint for mobile robots. , 2011, , .		12
83	Ensemble classification for robust discrimination of multi-channel, multi-class tongue-movement ear pressure signals. , 2011, 2011, 1733-6.		7
84	A bio-inspired condylar hinge joint for mobile robots. , 2011, , .		10
85	Development of a biologically inspired multi-modal wing model for aerial-aquatic robotic vehicles through empirical and numerical modelling of the common guillemot,<i>Uria aalge</i>. Bioinspiration and Biomimetics, 2010, 5, 046001.	1.5	28
86	Diversity-based selection of components for fusion classifiers. , 2010, 2010, 6304-7.		2
87	Design and testing of a hybrid expressive face for a humanoid robot. , 2010, , .		21
88	Multivariate Bayesian classification of tongue movement ear pressure signals based on the wavelet packet transform. , 2010, , .		3
89	Real-time implementation of a non-invasive tongue-based human-robot interface. , 2010, , .		10
90	Configuration of a genetic algorithm for multi-objective optimisation of solar gain to buildings. , 2010, , .		5

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91	A Feature Ranking Strategy to Facilitate Multivariate Signal Classification. IEEE Transactions on Systems, Man and Cybernetics, Part C: Applications and Reviews, 2010, 40, 98-108.	3.3	14
92	Assessment of human response to robot facial expressions through visual evoked potentials. , 2010, , .		7
93	Multi-layer neural network classification of tongue movement ear pressure signal for human machine interface. , 2010, , .		2
94	A DCT-Gaussian classification scheme for human-robot interface. , 2009, , .		1
95	Design of a semi-autonomous hybrid mobility surf-zone robot. , 2009, , .		21
96	Drive train design enabling locomotion transition of a small hybrid air-land vehicle. , 2009, , .		10
97	Impact of passive stiffness variation on stability and mobility of a hexapod robot. , 2009, , .		2
98	Tongue in cheek: a novel concept in assistive human machine interface. Journal of Assistive Technologies, 2009, 3, 14-26.	0.9	3
99	A Dynamic Channel Selection Strategy for Dense-Array ERP Classification. IEEE Transactions on Biomedical Engineering, 2009, 56, 1040-1051.	2.5	12
100	A biologically inspired micro-vehicle capable of aerial and terrestrial locomotion. Mechanism and Machine Theory, 2009, 44, 513-526.	2.7	97
101	A Miniature Vehicle with Extended Aerial and Terrestrial Mobility. , 2009, , 247-270.		4
102	Use of a mixed radix fitness function to evolve swarm behaviors. , 2008, , .		0
103	Dimensionality reduction strategies for the design of human machine interface signal classifiers. Conference Proceedings IEEE International Conference on Systems, Man, and Cybernetics, 2008, , .	0.0	1
104	Confluence of Active and Passive Control Mechanisms Enabling Autonomy and Terrain Adaptability for Robots in Variable Environments. , 2008, , .		4
105	A wavelet denoising approach for signal action isolation in the ear canal. , 2008, 2008, 2677-80.		4
106	Littoral undersea warfare: a case study in process modelling for functionality and interoperability of complex systems. International Journal of System of Systems Engineering, 2008, 1, 18.	0.4	7
107	Independent Component Analysis for Extraction of Critical Features from Tongue Movement Ear Pressure Signals. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007, 2007, 5481-4.	0.5	7
108	A Dual Mode Human-Robot Teleoperation Interface Based on Airflow in the Aural Cavity. International Journal of Robotics Research, 2007, 26, 1205-1223.	5.8	11

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109	Tongue-Movement Communication and Control Concept for Hands-Free Humanâ€"Machine Interfaces. IEEE Transactions on Systems, Man and Cybernetics, Part A: Systems and Humans, 2007, 37, 533-546.	3.4	52
110	An Integrated Systems Architecture to Provide Maritime Domain Protection. Journal of Defense Modeling and Simulation, 2006, 3, 63-75.	1.2	1
111	Fuel optimal manoeuvres for multiple spacecraft formation reconfiguration using multi-agent optimization. International Journal of Robust and Nonlinear Control, 2002, 12, 243-283.	2.1	54
112	A hydrostatic robot for marine applications. Robotics and Autonomous Systems, 2000, 30, 103-113.	3.0	55
113	Mapping Lower-Limb Prosthesis Load Distributions Using a Low-Cost Pressure Measurement System. Frontiers in Medical Technology, 0, 4, .	1.3	5