

Ravi Vaidyanathan

List of Publications by Year in descending order

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Version: 2024-02-01

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	A biologically inspired micro-vehicle capable of aerial and terrestrial locomotion. <i>Mechanism and Machine Theory</i> , 2009, 44, 513-526.	2.7	97
2	Formulation of a new gradient descent MARG orientation algorithm: Case study on robot teleoperation. <i>Mechanical Systems and Signal Processing</i> , 2019, 130, 183-200.	4.4	59
3	Telehealth, Wearable Sensors, and the Internet: Will They Improve Stroke Outcomes Through Increased Intensity of Therapy, Motivation, and Adherence to Rehabilitation Programs?. <i>Journal of Neurologic Physical Therapy</i> , 2017, 41, S32-S38.	0.7	57
4	A hydrostatic robot for marine applications. <i>Robotics and Autonomous Systems</i> , 2000, 30, 103-113.	3.0	55
5	Technological advancements and opportunities in Neuromarketing: a systematic review. <i>Brain Informatics</i> , 2020, 7, 10.	1.8	55
6	An Extended Complementary Filter for Full-Body MARG Orientation Estimation. <i>IEEE/ASME Transactions on Mechatronics</i> , 2020, 25, 2054-2064.	3.7	55
7	Fuel optimal manoeuvres for multiple spacecraft formation reconfiguration using multi-agent optimization. <i>International Journal of Robust and Nonlinear Control</i> , 2002, 12, 243-283.	2.1	54
8	A case study exploring regulated energy use in domestic buildings using design-of-experiments and multi-objective optimisation. <i>Building and Environment</i> , 2012, 54, 126-136.	3.0	54
9	Tongue-Movement Communication and Control Concept for Hands-Free Human-Machine Interfaces. <i>IEEE Transactions on Systems, Man and Cybernetics, Part A: Systems and Humans</i> , 2007, 37, 533-546.	3.4	52
10	Telemonitoring Parkinson's disease using machine learning by combining tremor and voice analysis. <i>Brain Informatics</i> , 2020, 7, 12.	1.8	46
11	Examination of the Performance Characteristics of Velostat as an In-Socket Pressure Sensor. <i>IEEE Sensors Journal</i> , 2020, 20, 6992-7000.	2.4	45
12	Pervasive Monitoring of Motion and Muscle Activation: Inertial and Mechanomyography Fusion. <i>IEEE/ASME Transactions on Mechatronics</i> , 2017, 22, 2022-2033.	3.7	44
13	Fetal movements as a predictor of health. <i>Acta Obstetrica Et Gynecologica Scandinavica</i> , 2016, 95, 968-975.	1.3	42
14	A Heterogeneous Sensing Suite for Multisymptom Quantification of Parkinson's Disease. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2020, 28, 1397-1406.	2.7	42
15	Measuring motion with kinematically redundant accelerometer arrays: Theory, simulation and implementation. <i>Mechatronics</i> , 2013, 23, 518-529.	2.0	37
16	Upper-limb prosthetic control using wearable multichannel mechanomyography. , 2017, 2017, 1293-1298.		35
17	Role of optimisation method on kinetic inverse modelling of biomass pyrolysis at the microscale. <i>Fuel</i> , 2020, 262, 116251.	3.4	34
18	Exploration of EEG-Based Depression Biomarkers Identification Techniques and Their Applications: A Systematic Review. <i>IEEE Access</i> , 2022, 10, 16756-16781.	2.6	29

#	ARTICLE	IF	CITATIONS
19	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> . <i>Bioinspiration and Biomimetics</i> , 2010, 5, 046001.	1.5	28
20	Segmenting Mechanomyography Measures of Muscle Activity Phases Using Inertial Data. <i>Scientific Reports</i> , 2019, 9, 5569.	1.6	28
21	Hand gesture recognition with convolutional neural networks for the multimodal UAV control. , 2017, , .		26
22	Human Joint Torque Modelling With MMG and EMG During Lower Limb Human-Exoskeleton Interaction. <i>IEEE Robotics and Automation Letters</i> , 2021, 6, 7185-7192.	3.3	24
23	Automated assessment of symptom severity changes during deep brain stimulation (DBS) therapy for Parkinson's disease. , 2017, 2017, 1512-1517.		23
24	Robotic Telemedicine for Mental Health: A Multimodal Approach to Improve Human-Robot Engagement. <i>Frontiers in Robotics and AI</i> , 2021, 8, 618866.	2.0	23
25	Design of a semi-autonomous hybrid mobility surf-zone robot. , 2009, , .		21
26	Design and testing of a hybrid expressive face for a humanoid robot. , 2010, , .		21
27	A Bio-Inspired Condylar Hinge for Robotic Limbs. <i>Journal of Mechanisms and Robotics</i> , 2013, 5, .	1.5	21
28	Performance of a wearable acoustic system for fetal movement discrimination. <i>PLoS ONE</i> , 2018, 13, e0195728.	1.1	20
29	SeaDog: A rugged mobile robot for surf-zone applications. , 2012, , .		18
30	Evaluating lubricant performance to reduce COVID-19 PPE-related skin injury. <i>PLoS ONE</i> , 2020, 15, e0239363.	1.1	18
31	Wearable MMG-Plus-One Armband: Evaluation of Normal Force on Mechanomyography (MMG) to Enhance Human-Machine Interfacing. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2021, 29, 196-205.	2.7	18
32	Impact of Marine Locomotion Constraints on a Bio-inspired Aerial-Aquatic Wing: Experimental Performance Verification. <i>Journal of Mechanisms and Robotics</i> , 2014, 6, .	1.5	16
33	A Multimodal Intention Detection Sensor Suite for Shared Autonomy of Upper-Limb Robotic Prostheses. <i>Sensors</i> , 2020, 20, 6097.	2.1	16
34	Sensor suites for assistive arm prosthetics. , 2011, , .		15
35	A Feature Ranking Strategy to Facilitate Multivariate Signal Classification. <i>IEEE Transactions on Systems, Man and Cybernetics, Part C: Applications and Reviews</i> , 2010, 40, 98-108.	3.3	14
36	Improved formulation of the IMU and MARG orientation gradient descent algorithm for motion tracking in human-machine interfaces. , 2017, , .		14

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37	Fusion of Enhanced and Synthetic Vision System Images for Runway and Horizon Detection. Sensors, 2019, 19, 3802.	2.1	14
38	Parametric design of an active ankle foot orthosis with passive compliance. , 2011, , .		13
39	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
40	Model Predictive Control for Human-Centred Lower Limb Robotic Assistance. IEEE Transactions on Medical Robotics and Bionics, 2021, 3, 980-991.	2.1	13
41	Conversational Affective Social Robots for Ageing and Dementia Support. IEEE Transactions on Cognitive and Developmental Systems, 2022, 14, 1378-1397.	2.6	13
42	A Dynamic Channel Selection Strategy for Dense-Array ERP Classification. IEEE Transactions on Biomedical Engineering, 2009, 56, 1040-1051.	2.5	12
43	A bio-inspired condylar hinge joint for mobile robots. , 2011, , .		12
44	Pervasive Motion Tracking and Muscle Activity Monitor. , 2014, , .		12
45	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
46	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
47	Multi-objective design optimisation: getting more for less. Proceedings of the Institution of Civil Engineers: Civil Engineering, 2012, 165, 5-10.	0.3	11
48	A biomimicking design for mechanical knee joints. Bioinspiration and Biomimetics, 2018, 13, 056012.	1.5	11
49	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
50	Drive train design enabling locomotion transition of a small hybrid air-land vehicle. , 2009, , .		10
51	Real-time implementation of a non-invasive tongue-based human-robot interface. , 2010, , .		10
52	A bio-inspired condylar hinge joint for mobile robots. , 2011, , .		10
53	Robust real-time identification of tongue movement commands from interferences. Neurocomputing, 2012, 80, 83-92.	3.5	10
54	Integrated grip switching and grasp control for prosthetic hands using fused inertial and mechanomyography measurement. , 2015, , .		10

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55	A Kinematic Model for the Design of a Bicondylar Mechanical Knee. , 2018, , .		9
56	A Novel Fetal Movement Simulator for the Performance Evaluation of Vibration Sensors for Wearable Fetal Movement Monitors. Sensors, 2020, 20, 6020.	2.1	9
57	Stiffness Modulation in a Humanoid Robotic Leg and Knee. IEEE Robotics and Automation Letters, 2021, 6, 2563-2570.	3.3	9
58	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
59	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
60	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
61	Gesture Recognition Through Classification of Acoustic Muscle Sensing for Prosthetic Control. Lecture Notes in Computer Science, 2017, , 637-642.	1.0	8
62	Fusion Models for Generalized Classification of Multi-Axial Human Movement: Validation in Sport Performance. Sensors, 2021, 21, 8409.	2.1	8
63	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
64	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
65	Assessment of human response to robot facial expressions through visual evoked potentials. , 2010, , .		7
66	Ensemble classification for robust discrimination of multi-channel, multi-class tongue-movement ear pressure signals. , 2011, 2011, 1733-6.		7
67	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
68	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
69	Design and experimental verification of a biologically inspired multi-modal wing for aerial-aquatic robotic vehicles. , 2012, , .		6
70	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
71	Configuration of a genetic algorithm for multi-objective optimisation of solar gain to buildings. , 2010, , .		5
72	An automated approach towards detecting complex behaviours in deep brain oscillations. Journal of Neuroscience Methods, 2014, 224, 66-78.	1.3	5

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73	Challenges in using compliant ligaments for position estimation within robotic joints. , 2017, 2017, 1471-1476.		5
74	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
75	Mapping Lower-Limb Prosthesis Load Distributions Using a Low-Cost Pressure Measurement System. Frontiers in Medical Technology, 0, 4, .	1.3	5
76	Confluence of Active and Passive Control Mechanisms Enabling Autonomy and Terrain Adaptability for Robots in Variable Environments. , 2008, , .		4
77	A wavelet denoising approach for signal action isolation in the ear canal. , 2008, 2008, 2677-80.		4
78	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
79	An unobtrusive vision system to reduce the cognitive burden of hand prosthesis control. , 2014, , .		4
80	Motion-based grasp selection: Improving traditional control strategies of myoelectric hand prosthesis. , 2015, , .		4
81	A Miniature Vehicle with Extended Aerial and Terrestrial Mobility. , 2009, , 247-270.		4
82	Synergistic Upper-Limb Functional Muscle Connectivity Using Acoustic Mechanomyography. IEEE Transactions on Biomedical Engineering, 2022, 69, 2569-2580.	2.5	4
83	Tongue in cheek: a novel concept in assistive human machine interface. Journal of Assistive Technologies, 2009, 3, 14-26.	0.9	3
84	Multivariate Bayesian classification of tongue movement ear pressure signals based on the wavelet packet transform. , 2010, , .		3
85	Modelling and control of a water jet cutting probe for flexible surgical robot. , 2015, , .		3
86	Myographic Information Enables Hand Function Classification in Automated Fugl-Meyer Assessment. , 2019, , .		3
87	3D-Mechanomyography: Accessing Deeper Muscle Information Non-Invasively for Human-Machine Interfacing. , 2020, , .		3
88	A Novel Acoustic Interface for Bionic Hand Control. Lecture Notes in Computer Science, 2014, , 296-297.	1.0	3
89	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
90	Detection and Analysis of Fetal Movements Using an Acoustic Sensor-based Wearable Monitor. , 2020, , .		3

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91	Impact of passive stiffness variation on stability and mobility of a hexapod robot. , 2009, , .		2
92	Diversity-based selection of components for fusion classifiers. , 2010, 2010, 6304-7.		2
93	Multi-layer neural network classification of tongue movement ear pressure signal for human machine interface. , 2010, , .		2
94	Quantification of the benefits of a compliant foil for underwater flapping wing propulsion. , 2011, , .		2
95	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
96	Flexible robotic device for spinal surgery. , 2014, , .		2
97	Rapid bicycle gear switching based on physiological cues. , 2015, , .		2
98	Biorobotics with Hybrid and Multimodal Locomotion [TC Spotlight]. IEEE Robotics and Automation Magazine, 2015, 22, 29-181.	2.2	2
99	Subject-Independent Data Pooling in Classification of Gait Intent Using Mechanomyography on a Transtibial Amputee. , 2018, , .		2
100	An Integrated Systems Architecture to Provide Maritime Domain Protection. Journal of Defense Modeling and Simulation, 2006, 3, 63-75.	1.2	1
101	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
102	A DCT-Gaussian classification scheme for human-robot interface. , 2009, , .		1
103	Predicting movement and laterality from Deep Brain Local Field Potentials. , 2016, , .		1
104	Unilateral Inertial and Muscle Activity Sensor Fusion for Gait Cycle Progress Estimation*. , 2018, , .		1
105	P4â€630: USE OF A HYBRID FACE ROBOT IN DEMENTIA CARE: UNDERSTANDING FEASIBILITY IN INDIA. Alzheimer's and Dementia, 2019, 15, P1569.	0.4	1
106	Use of a mixed radix fitness function to evolve swarm behaviors. , 2008, , .		0
107	Augmenting neuroprosthetic hand control through evaluation of a bioacoustic interface. , 2013, , .		0
108	UPDRS Label Assignment by Analyzing Accelerometer Sensor Data Collected from Conventional Smartphones. Lecture Notes in Computer Science, 2020, , 173-182.	1.0	0

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109	Surgical Robot Platform with a Novel Concentric Joint for Minimally Invasive Procedures. Journal of Medical Robotics Research, 2020, 05, 2050001.	1.0	0
110	Evaluating lubricant performance to reduce COVID-19 PPE-related skin injury. , 2020, 15, e0239363.		0
111	Evaluating lubricant performance to reduce COVID-19 PPE-related skin injury. , 2020, 15, e0239363.		0
112	Evaluating lubricant performance to reduce COVID-19 PPE-related skin injury. , 2020, 15, e0239363.		0
113	Evaluating lubricant performance to reduce COVID-19 PPE-related skin injury. , 2020, 15, e0239363.		0