Mitsuhiro Hayashibe

List of Publications by Year
in descending order

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140	1,528	361296	454834
papers	citations	20 h-index	30 g-index

144	144	144	1428
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A Survey of Sim-to-Real Transfer Techniques Applied to Reinforcement Learning for Bioinspired Robots. IEEE Transactions on Neural Networks and Learning Systems, 2023, 34, 3444-3459.	7.2	7
2	Reinforcement Learning based Hierarchical Control for Path Tracking of a Wheeled Bipedal Robot with Sim-to-Real Framework. , 2022, , .		4
3	Deep Adversarial Domain Adaptation With Few-Shot Learning for Motor-Imagery Brain-Computer Interface. IEEE Access, 2022, 10, 57255-57265.	2.6	10
4	Motor synergy generalization framework for new targets in multi-planar and multi-directional reaching task. Royal Society Open Science, 2022, 9, .	1.1	4
5	Prediction of Whole-Body Velocity and Direction From Local Leg Joint Movements in Insect Walking via LSTM Neural Networks. IEEE Robotics and Automation Letters, 2022, 7, 9389-9396.	3.3	3
6	An extended statically equivalent serial chainâ€"Identification of whole body center of mass with dynamic motion. Gait and Posture, 2021, 84, 45-51.	0.6	5
7	Balance Stability Augmentation for Wheel-Legged Biped Robot Through Arm Acceleration Control. IEEE Access, 2021, 9, 54022-54031.	2.6	13
8	Towards Robust Wheel-Legged Biped Robot System: Combining Feedforward and Feedback Control. , 2021, , .		4
9	Visual-Electrotactile Stimulation Feedback to Improve Immersive Brain-Computer Interface Based on Hand Motor Imagery. Computational Intelligence and Neuroscience, 2021, 2021, 1-13.	1.1	15
10	Synergy Emergence in Deep Reinforcement Learning for Full-Dimensional Arm Manipulation. IEEE Transactions on Medical Robotics and Bionics, 2021, 3, 498-509.	2.1	7
11	Adaptive and Energy-Efficient Optimal Control in CPGs Through Tegotae-Based Feedback. Frontiers in Robotics and AI, 2021, 8, 632804.	2.0	5
12	Reproducing Human Arm Strategy and Its Contribution to Balance Recovery Through Model Predictive Control. Frontiers in Neurorobotics, 2021, 15, 679570.	1.6	4
13	Individual deformability compensation of soft hydraulic actuators through iterative learning-based neural network. Bioinspiration and Biomimetics, 2021, 16, 056016.	1.5	3
14	Emergence of Motor Synergy in Multi-directional Reaching with Deep Reinforcement Learning. , 2021, , .		0
15	Recent Advances in Quantitative Gait Analysis Using Wearable Sensors: A Review. IEEE Sensors Journal, 2021, 21, 26470-26487.	2.4	13
16	Deep Reinforcement Learning Framework for Underwater Locomotion of Soft Robot. , 2021, , .		12
17	Quantification of Joint Redundancy considering Dynamic Feasibility using Deep Reinforcement Learning. , 2021, , .		0
18	An Optimal Transport Based Transferable System for Detection of Erroneous Somato-Sensory Feedback from Neural Signals. Brain Sciences, 2021, 11, 1393.	1.1	0

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19	Grey-box modeling and hypothesis testing of functional near-infrared spectroscopy-based cerebrovascular reactivity to anodal high-definition tDCS in healthy humans. PLoS Computational Biology, 2021, 17, e1009386.	1.5	10
20	Spiking Neural Network Discovers Energy-Efficient Hexapod Motion in Deep Reinforcement Learning. IEEE Access, 2021, 9, 150345-150354.	2.6	4
21	Control Strategies for Gait Tele-Rehabilitation System Based on Parallel Robotics. Applied Sciences (Switzerland), 2021, 11, 11095.	1.3	5
22	Mutual Information-Based Time Window Adaptation for Improving Motor Imagery-Based BCI. , 2021, , .		0
23	Inter-Subject Transfer Learning Using Euclidean Alignment and Transfer Component Analysis for Motor Imagery-Based BCI. , 2021, , .		5
24	Seamless Temporal Gait Evaluation during Walking and Running Using Two IMU Sensors. , 2021, 2021, 6835-6840.		5
25	Deep Reinforcement Learning with Gait Mode Specification for Quadrupedal Trot-Gallop Energetic Analysis. , 2021, 2021, 4583-4587.		2
26	Simultaneous Quantification of Personalized Balance, Motion Class and Quality for Whole-body Exercise through Synergy Probe. , 2021, 2021, 5756-5759.		1
27	Muscle Fatigue Induced Hand Tremor Clustering in Dynamic Laparoscopic Manipulation. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2020, 50, 5420-5431.	5.9	11
28	Decoding Hand Motor Imagery Tasks Within the Same Limb From EEG Signals Using Deep Learning. IEEE Transactions on Medical Robotics and Bionics, 2020, 2, 692-699.	2.1	14
29	Modeling and Control of a Hybrid Wheeled Legged Robot: Disturbance Analysis. , 2020, , .		3
30	Reinforcement Q-Learning Control With Reward Shaping Function for Swing Phase Control in a Semi-active Prosthetic Knee. Frontiers in Neurorobotics, 2020, 14, 565702.	1.6	7
31	Quantitative Gait Assessment With Feature-Rich Diversity Using Two IMU Sensors. IEEE Transactions on Medical Robotics and Bionics, 2020, 2, 639-648.	2.1	13
32	Personalized Balance and Fall Risk Visualization with Kinect Two. , 2020, 2020, 4863-4866.		5
33	Motor Synergy Development in High-Performing Deep Reinforcement Learning Algorithms. IEEE Robotics and Automation Letters, 2020, 5, 1271-1278.	3.3	24
34	Discovering Interpretable Dynamics by Sparsity Promotion on Energy and the Lagrangian. IEEE Robotics and Automation Letters, 2020, 5, 2154-2160.	3.3	21
35	Identification of Time-Varying and Time-Scalable Synergies From Continuous Electromyographic Patterns. IEEE Robotics and Automation Letters, 2019, 4, 3053-3058.	3.3	8
36	Augmenting Motor Imagery Learning for Brainâ€“Computer Interfacing Using Electrical Stimulation as Feedback. IEEE Transactions on Medical Robotics and Bionics, 2019, 1, 247-255.	2.1	13

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37	Assistive Robot Arm Controlled by a P300-based Brain Machine Interface for Daily Activities. , 2019, , .		9
38	Brainâ€“computer interfaceâ€“functional electrical stimulation: from control to neurofeedback in rehabilitation. , 2019, , 779-792.		0
39	Neurophysiological Correlates of tDCS-Induced Modulation of Cortical Sensorimotor Networks. , 2019, , 147-151.		2
40	Restoring prolonged standing via functional electrical stimulation after spinal cord injury: A systematic review of control strategies. Biomedical Signal Processing and Control, 2019, 49, 34-47.	3.5	10
41	Textile-based Electrode Array for FES and sEMG Recording Fabricated by Screen Printing. , 2019, , .		0
42	Synergetic Learning Control Paradigm for Redundant Robot to Enhance Error-Energy Index. IEEE Transactions on Cognitive and Developmental Systems, 2018, 10, 573-584.	2.6	14
43	Real-Time Closed-Loop Functional Electrical Stimulation Control of Muscle Activation with Evoked Electromyography Feedback for Spinal Cord Injured Patients. International Journal of Neural Systems, 2018, 28, 1750063.	3.2	24
44	Generation of Human-Like Movement from Symbolized Information. Frontiers in Neurorobotics, 2018, 12, 43.	1.6	10
45	Immersive Virtual Reality Feedback in a Brain Computer Interface for Upper Limb Rehabilitation. , 2018, , .		19
46	Implication of N400 and P600 waves in the Linguistic Code Change in Monolinguals and Bilinguals. , 2018, 2018, 2032-2035.		0
47	Differential analysis of muscle fatigue induced elbow and wrist tremor in controlled laparoscopic manoeuvring. International Journal of Medical Robotics and Computer Assisted Surgery, 2017, 13, e1772.	1.2	2
48	Empirical Mode Decomposition-based filtering for fatigue induced hand tremor in laparoscopic manipulation. Biomedical Signal Processing and Control, 2017, 31, 339-349.	3.5	11
49	Neural interfacing non-invasive brain stimulation with NIRS-EEG joint imaging for closed-loop control of neuroenergetics in ischemic stroke. , 2017, , .		5
50	A Generic Transferable EEG Decoder for Online Detection of Error Potential in Target Selection. Frontiers in Neuroscience, 2017, 11, 226.	1.4	28
51	Personalized Modeling for Home-Based Postural Balance Rehabilitation. , 2017, , 111-137.		4
52	Virtual Reality-Based Center of Mass-Assisted Personalized Balance Training System. Frontiers in Bioengineering and Biotechnology, 2017, 5, 85.	2.0	13
53	Automatic Human Movement Assessment With Switching Linear Dynamic System: Motion Segmentation and Motor Performance. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2017, 25, 628-640.	2.7	24
54	A study on the effect of electrical stimulation as a user stimuli for motor imagery classification in Brain-Machine Interface. European Journal of Translational Myology, 2016, 26, 6041.	0.8	8

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55	A hybrid functional electrical stimulation for real-time estimation of joint torque and closed-loop control of muscle activation. European Journal of Translational Myology, 2016, 26, 6064.	0.8	8
56	Evoked Electromyographically Controlled Electrical Stimulation. Frontiers in Neuroscience, 2016, 10, 335.	1.4	9
57	A Synergetic Brain-Machine Interfacing Paradigm for Multi-DOF Robot Control. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2016, 46, 957-968.	5.9	39
58	A study on the effect of Electrical Stimulation during motor imagery learning in Brain-computer interfacing. , 2016, , .		4
59	Real-time estimation of FES-induced joint torque with evoked EMG. Journal of NeuroEngineering and Rehabilitation, 2016, 13, 60.	2.4	28
60	NIRS-EEG joint imaging during transcranial direct current stimulation: Online parameter estimation with an autoregressive model. Journal of Neuroscience Methods, 2016, 274, 71-80.	1.3	41
61	The difference between electrical microstimulation and direct electrical stimulation â€“ towards new opportunities for innovative functional brain mapping?. Reviews in the Neurosciences, 2016, 27, 231-258.	1.4	25
62	Case report: Remote neuromodulation with direct electrical stimulation of the brain, as evidenced by intra-operative EEG recordings during wide-awake neurosurgery. Clinical Neurophysiology, 2016, 127, 1752-1754.	0.7	2
63	Locomotor improvement of spinal cord-injured rats through treadmill training by forced plantar placement of hind paws. Spinal Cord, 2016, 54, 521-529.	0.9	22
64	Empirical Mode Analysis for Characterization of Hand Tremor in the Design of Laparoscopic Tools1. Journal of Medical Devices, Transactions of the ASME, 2015, 9, .	0.4	2
65	Editorial: Biosignal processing and computational methods to enhance sensory motor neuroprosthetics. Frontiers in Neuroscience, 2015, 9, 434.	1.4	9
66	Inverse Estimation of Multiple Muscle Activations From Joint Moment With Muscle Synergy Extraction. IEEE Journal of Biomedical and Health Informatics, 2015, 19, 64-73.	3.9	22
67	Functional connectivity analysis of motor imagery EEG signal for brain-computer interfacing application. , 2015, , .		9
68	Methodology for automatic movement cycle extraction using Switching Linear Dynamic System. , 2015, , .		1
69	Synthesis of optimal electrical stimulation patterns for functional motion restoration: applied to spinal cord-injured patients. Medical and Biological Engineering and Computing, 2015, 53, 227-240.	1.6	6
70	Adaptive Interface for Personalized Center of Mass Self-Identification in Home Rehabilitation. IEEE Sensors Journal, 2015, , 1-1.	2.4	11
71	Real-time closed-loop FES control of muscle activation with evoked EMG feedback. , 2015, , .		7
72	A personalized balance measurement for home-based rehabilitation. , 2015, , .		3

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73	Human Movement Understanding [TC Spotlight]. IEEE Robotics and Automation Magazine, 2015, 22, 22-24.	2.2	7
74	Determination of subject specific whole-body centre of mass using the 3D Statically Equivalent Serial Chain. Gait and Posture, 2015, 41, 70-75.	0.6	19
75	Tacit Learning for Emergence of Task-Related Behaviour through Signal Accumulation. Advances in Intelligent Systems and Computing, 2015, , 31-38.	0.5	1
76	Whole Body Center of Mass Estimation with Portable Sensors: Using the Statically Equivalent Serial Chain and a Kinect. Sensors, 2014, 14, 16955-16971.	2.1	56
77	Dominant component in muscle fatigue induced hand tremor during laparoscopic surgical manipulation. , 2014, 2014, 6539-42.		8
78	Asymmetric interhemispheric excitability evidenced by event-related potential amplitude patterns after â€œwide-awake surgeryâ€•of brain tumours. Experimental Brain Research, 2014, 232, 3907-3918.	0.7	3
79	Muscle Fatigue Tracking with Evoked EMG via Recurrent Neural Network: Toward Personalized Neuroprosthetics. IEEE Computational Intelligence Magazine, 2014, 9, 38-46.	3.4	58
80	A new method for muscle fatigue assessment: Online model identification techniques. Muscle and Nerve, 2014, 50, 556-563.	1.0	0
81	Synergetic motor control paradigm for optimizing energy efficiency of multijoint reaching via tacit learning. Frontiers in Computational Neuroscience, 2014, 8, 21.	1.2	23
82	A System for Real-Time Estimation of Joint Torque with Evoked EMG under Electrical Stimulation. Biosystems and Biorobotics, 2014, , 513-520.	0.2	1
83	Real-Time Muscle Deformation via Decoupled Modeling of Solid and Muscle Fiber Mechanics. Lecture Notes in Computer Science, 2014, 17, 65-72.	1.0	3
84	Experimental parameter identification of a multi-scale musculoskeletal model controlled by electrical stimulation: application to patients with spinal cord injury. Medical and Biological Engineering and Computing, 2013, 51, 617-631.	1.6	8
85	Voluntary EMG-to-force estimation with a multi-scale physiological muscle model. BioMedical Engineering OnLine, 2013, 12, 86.	1.3	35
86	Evoked Electromyography-Based Closed-Loop Torque Control in Functional Electrical Stimulation. IEEE Transactions on Biomedical Engineering, 2013, 60, 2299-2307.	2.5	61
87	Online identification and visualization of the statically equivalent serial chain via constrained Kalman filter. , 2013, , .		8
88	In Vivo Identification of Skeletal Muscle Dynamics with Nonlinear Kalman Filter: Comparison between EKF and SPKF. ISRN Rehabilitation, 2013, 2013, 1-10.	0.6	1
89	Forward estimation of joint torque from EMG signal through muscle synergy combinations. , 2013, , .		2
90	Inverse estimation of muscle activations from joint torque via local multiple regression. , 2013, 2013, 6639-42.		1

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91	Center of Mass Estimation for Rehabilitation in a Multi-contact Environment: A Simulation Study. , 2013, , .		5
92	Emergence of motor synergy in vertical reaching task via tacit learning. , 2013, 2013, 4985-8.		2
93	Subject-Specific Center of Mass Estimation for In-Home Rehabilitation â€“ Kinect-Wii Board vs. Vicon-Force Plate. Biosystems and Biorobotics, 2013, , 705-709.	0.2	4
94	Inverse Estimation of Multiple Muscle Activations under Isokinetic Condition. Biosystems and Biorobotics, 2013, , 347-351.	0.2	3
95	â€œAwake Surgeryâ€•of Slow-Growing Tumors and Cortical Excitability Measured by EEG Recordings: Preliminary Results. Biosystems and Biorobotics, 2013, , 525-528.	0.2	0
96	Simulation of tremor on 3-dimentional musculoskeletal model of wrist joint and experimental verification ?. , 2012, 2012, 4823-6.		2
97	Three dimensional visualization of the statically equivalent serial chain from kinect recording. , 2012, 2012, 4843-6.		7
98	Active joint visco-elasticity estimation of the human knee using FES. , 2012, , .		1
99	FES-induced muscular torque prediction with evoked EMG synthesized by NARX-type recurrent neural network. , 2012, , .		12
100	Estimation of the center of mass with Kinect and Wii balance board. , 2012, , .		34
101	3D volumetric muscle modeling for real-time deformation analysis with FEM. , 2012, 2012, 4863-6.		4
102	Muscle fatigue tracking based on stimulus evoked EMG and adaptive torque prediction. , 2011, , .		6
103	Joint angle estimation in rehabilitation with inertial sensors and its integration with Kinect. , 2011, 2011, 3479-83.		72
104	FES-Induced Torque Prediction With Evoked EMG Sensing for Muscle Fatigue Tracking. IEEE/ASME Transactions on Mechatronics, 2011, 16, 816-826.	3.7	64
105	Multiscale modeling of skeletal muscle properties and experimental validations in isometric conditions. Biological Cybernetics, 2011, 105, 121-138.	0.6	20
106	Dual predictive control of electrically stimulated muscle using biofeedback for drop foot correction. , 2011, , .		11
107	Muscle strength and Mass Distribution Identification toward subject-specific musculoskeletal modeling. , 2011, , .		6
108	Evoked EMG-based torque prediction under muscle fatigue in implanted neural stimulation. Journal of Neural Engineering, 2011, 8, 064001.	1.8	28

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109	Muscle strength and Mass Distribution Identification toward subject-specific musculoskeletal modeling. , 2011, , .		3
110	Dual predictive control of electrically stimulated muscle using biofeedback for drop foot correction. , 2011, , .		0
111	Torque prediction using stimulus evoked EMG and its identification for different muscle fatigue states in SCI subjects. , 2010, 2010, 3523-6.		2
112	Nonlinear identification method corresponding to muscle property variation in FES - experiments in paraplegic patients. , 2010, , .		5
113	EMG-based neuromuscular modeling with full physiological dynamics and its comparison with modified hill model. , 2009, 2009, 6530-3.		12
114	Identification and validation of FES physiological musculoskeletal model in paraplegic subjects. , 2009, 2009, 6538-41.		5
115	EMG-to-force estimation with full-scale physiology based muscle model. , 2009, , .		16
116	Simulating the Human Motion Under Functional Electrical Stimulation Using the HuMAnS Toolbox. , 2009, , 121-131.		0
117	Nonlinear identification of skeletal muscle dynamics with sigma-point kalman filter for model-based FES. , 2008, , .		8
118	Intraoperative 3D visualization for surgical field deformation with geometric pattern projection. Systems and Computers in Japan, 2006, 37, 45-54.	0.2	0
119	Laser-scan endoscope system for intraoperative geometry acquisition and surgical robot safety management. Medical Image Analysis, 2006, 10, 509-519.	7.0	61
120	Robotic surgery setup simulation with the integration of inverse-kinematics computation and medical imaging. Computer Methods and Programs in Biomedicine, 2006, 83, 63-72.	2.6	22
121	Surgical navigation display system using volume rendering of intraoperatively scanned CT images. Computer Aided Surgery, 2006, 11, 240-246.	1.8	4
122	Surgical navigation display system using volume rendering of intraoperatively scanned CT images. Computer Aided Surgery, 2006, 11, 240-246.	1.8	4
123	Gastrointestinal: Fine-needle aspiration biopsy using three-dimensional endoscopic ultrasound. Journal of Gastroenterology and Hepatology (Australia), 2005, 20, 1941-1941.	1.4	1
124	Preoperative planning system for surgical robotics setup with kinematics and haptics. International Journal of Medical Robotics and Computer Assisted Surgery, 2005, 1, 76-85.	1.2	33
125	Tele-surgery simulation with a patient organ model for robotic surgery training. International Journal of Medical Robotics and Computer Assisted Surgery, 2005, 1, 80-88.	1.2	18
126	Motion analysis system using DSVC (dynamic spatial video camera) and 4D human modeling. International Congress Series, 2005, 1281, 1376.	0.2	2

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127	Tele-surgery simulation to perform surgical training of abdominal da Vinci surgery. International Congress Series, 2005, 1281, 531-536.	0.2	3
128	Data-Fusion Display System with Volume Rendering of Intraoperatively Scanned CT Images. Lecture Notes in Computer Science, 2005, 8, 559-566.	1.0	3
129	Surgical robot setup simulation with consistent kinematics and haptics for abdominal surgery. Studies in Health Technology and Informatics, 2005, 111, 164-6.	0.2	1
130	Navigation system for a developed endoscopic surgical robot system. International Congress Series, 2004, 1268, 539-544.	0.2	3
131	Tele-training simulation for the surgical robot system â€œda Vinciâ€• International Congress Series, 2004, 1268, 86-91.	0.2	7
132	Development of an elastic organ model containing voxel information. International Congress Series, 2004, 1268, 395-400.	0.2	0
133	4D analysis of skeletal and muscular system during locomotion using dynamic spatial video camera system. International Congress Series, 2004, 1268, 1239.	0.2	1
134	A real-time data fusion system updating 3D organ shapes using color information from multi-directional cameras. International Congress Series, 2004, 1268, 741-746.	0.2	1
135	An interactive planning system for optimal trocar site placement of surgical robot da Vinci. International Congress Series, 2004, 1268, 1336.	0.2	0
136	Laser-Pointing Endoscope System for Intraoperative 3D Geometric Registration. Journal of the Robotics Society of Japan, 2003, 21, 302-308.	0.0	2
137	Passive Safety Enhancement in Surgical Robot Navigation.. Journal of the Robotics Society of Japan, 2003, 21, 178-184.	0.0	1
138	Intraoperative Fast 3D Shape Recovery of Abdominal Organs in Laparoscopy. Lecture Notes in Computer Science, 2002, , 356-363.	1.0	8
139	Release from the Feedback Inhibition controlling the Biosynthesis of Isoleucine. Nature, 1961, 191, 1417-1418.	13.7	12
140	Laser-pointing endoscope system for intra-operative 3D geometric registration. , 0, , .		22