

Edward D Lemaire

List of Publications by Year in descending order

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116
papers

2,996
citations

172207

29
h-index

197535

49
g-index

118
all docs

118
docs citations

118
times ranked

3209
citing authors

#	ARTICLE	IF	CITATIONS
1	Review of fall risk assessment in geriatric populations using inertial sensors. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2013, 10, 91.	2.4	282
2	Feature Selection for Wearable Smartphone-Based Human Activity Recognition with Able bodied, Elderly, and Stroke Patients. <i>PLoS ONE</i> , 2015, 10, e0124414.	1.1	141
3	Elderly fall risk prediction using static posturography. <i>PLoS ONE</i> , 2017, 12, e0172398.	1.1	117
4	Wearable-Sensor-based Detection and Prediction of Freezing of Gait in Parkinson's Disease: A Review. <i>Sensors</i> , 2019, 19, 5141.	2.1	110
5	Osteoarthritis and elderly amputee gait. <i>Archives of Physical Medicine and Rehabilitation</i> , 1994, 75, 1094-1099.	0.5	104
6	Analysis of assisted-gait characteristics in persons with incomplete spinal cord injury. <i>Spinal Cord</i> , 1999, 37, 430-439.	0.9	102
7	Electromyographic and kinematic nondisabled gait differences at extremely slow overground and treadmill walking speeds. <i>Journal of Rehabilitation Research and Development</i> , 2005, 42, 523.	1.6	102
8	Prospective Fall-Risk Prediction Models for Older Adults Based on Wearable Sensors. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2017, 25, 1812-1820.	2.7	94
9	Surface Electromyographic Signals Using Dry Electrodes. <i>IEEE Transactions on Instrumentation and Measurement</i> , 2011, 60, 3259-3268.	2.4	87
10	Title is missing!. <i>Journal of Rehabilitation Research and Development</i> , 2009, 46, 257.	1.6	85
11	Low-bandwidth, Internet-based videoconferencing for physical rehabilitation consultations. <i>Journal of Telemedicine and Telecare</i> , 2001, 7, 82-89.	1.4	78
12	Novel algorithm for a smartphone-based 6-minute walk test application: algorithm, application development, and evaluation. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2015, 12, 19.	2.4	69
13	Analysis of dual-task elderly gait in fallers and non-fallers using wearable sensors. <i>Journal of Biomechanics</i> , 2016, 49, 992-1001.	0.9	53
14	Wearable-Sensor-Based Classification Models of Faller Status in Older Adults. <i>PLoS ONE</i> , 2016, 11, e0153240.	1.1	52
15	Fixed and self-paced treadmill walking for able-bodied and transtibial amputees in a multi-terrain virtual environment. <i>Gait and Posture</i> , 2015, 41, 568-573.	0.6	48
16	A novel approach to surface electromyography: an exploratory study of electrode-pair selection based on signal characteristics. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2012, 9, 24.	2.4	47
17	Feature selection for elderly faller classification based on wearable sensors. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2017, 14, 47.	2.4	47
18	Indicators of dynamic stability in transtibial prosthesis users. <i>Gait and Posture</i> , 2010, 31, 375-379.	0.6	46

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19	Preliminary kinematic evaluation of a new stance-control knee-ankle-foot orthosis. <i>Clinical Biomechanics</i> , 2006, 21, 1081-1089.	0.5	44
20	Two-degree-of-freedom powered prosthetic wrist. <i>Journal of Rehabilitation Research and Development</i> , 2011, 48, 609.	1.6	44
21	Faller Classification in Older Adults Using Wearable Sensors Based on Turn and Straight-Walking Accelerometer-Based Features. <i>Sensors</i> , 2017, 17, 1321.	2.1	42
22	Modeling and Simulation of a Lower Extremity Powered Exoskeleton. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2018, 26, 1596-1603.	2.7	41
23	Effect of 4-aminopyridine on gait in ambulatory spinal cord injuries: a double-blind, placebo-controlled, crossover trial. <i>Spinal Cord</i> , 2004, 42, 674-685.	0.9	39
24	The evidence-base for elevated vacuum in lower limb prosthetics: Literature review and professional feedback. <i>Clinical Biomechanics</i> , 2016, 37, 108-116.	0.5	39
25	A technique for the determination of center of gravity and rolling resistance for tilt-seat wheelchairs. <i>Journal of Rehabilitation Research and Development</i> , 1991, 28, 51.	1.6	37
26	Dynamic gait stability index based on plantar pressures and fuzzy logic. <i>Journal of Biomechanics</i> , 2008, 41, 1574-1581.	0.9	35
27	Wearable Mobility Monitoring Using a Multimedia Smartphone Platform. <i>IEEE Transactions on Instrumentation and Measurement</i> , 2011, 60, 3153-3161.	2.4	35
28	Design and Evaluation of a Stance-Control Knee-Ankle-Foot Orthosis Knee Joint. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2006, 14, 361-369.	2.7	34
29	Prediction and detection of freezing of gait in Parkinson's disease from plantar pressure data using long short-term memory neural-networks. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2021, 18, 167.	2.4	33
30	Fall risk assessment in the wild: A critical examination of wearable sensor use in free-living conditions. <i>Gait and Posture</i> , 2021, 85, 178-190.	0.6	30
31	Ambulation monitoring of transtibial amputation subjects with patient activity monitor versus pedometer. <i>Journal of Rehabilitation Research and Development</i> , 2008, 45, 577-586.	1.6	30
32	Early Detection of Freezing of Gait during Walking Using Inertial Measurement Unit and Plantar Pressure Distribution Data. <i>Sensors</i> , 2021, 21, 2246.	2.1	29
33	Plantar Pressure Parameters for Dynamic Gait Stability Analysis. , 2006, 2006, 4465-8.		28
34	Mobility change-of-state detection using a smartphone-based approach. , 2010, , .		28
35	A smartphone photogrammetry method for digitizing prosthetic socket interiors. <i>Prosthetics and Orthotics International</i> , 2017, 41, 210-214.	0.5	28
36	Temporal-spatial gait parameter models of very slow walking. <i>Gait and Posture</i> , 2018, 61, 125-129.	0.6	28

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37	Dual-Task Elderly Gait of Prospective Fallers and Non-Fallers: A Wearable-Sensor Based Analysis. Sensors, 2018, 18, 1275.	2.1	27
38	Effect of mobility devices on orientation sensors that contain magnetometers. Journal of Rehabilitation Research and Development, 2009, 46, 957.	1.6	27
39	Design and Evaluation of an Orthotic Knee-Extension Assist. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2012, 20, 678-687.	2.7	22
40	Angular-Velocity Control Approach for Stance-Control Orthoses. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2009, 17, 497-503.	2.7	21
41	Wheelchair Ramp Navigation in Snow and Ice-Grit Conditions. Archives of Physical Medicine and Rehabilitation, 2010, 91, 1516-1523.	0.5	21
42	Gait phase detection from thigh kinematics using machine learning techniques. , 2017, , .		21
43	Gait patterns of elderly men with trans-tibial-amputations. Prosthetics and Orthotics International, 1993, 17, 27-37.	0.5	20
44	A smartphone approach for the 2 and 6-minute walk test. , 2014, 2014, 958-61.		20
45	Prospective elderly fall prediction by older-adult fall-risk modeling with feature selection. Biomedical Signal Processing and Control, 2018, 43, 320-328.	3.5	20
46	Design, development, and evaluation of a local sensor-based gait phase recognition system using a logistic model decision tree for orthosis-control. Journal of NeuroEngineering and Rehabilitation, 2019, 16, 22.	2.4	20
47	Maintaining stable transfemoral amputee gait on level, sloped and simulated uneven conditions in a virtual environment. Disability and Rehabilitation: Assistive Technology, 2019, 14, 226-235.	1.3	20
48	A comparison between three electronic media and in-person learning for continuing education in physical rehabilitation. Journal of Telemedicine and Telecare, 2003, 9, 17-22.	1.4	19
49	Effectiveness of various materials in reducing plantar shear forces. A pilot study. Journal of the American Podiatric Medical Association, 2000, 90, 346-353.	0.2	18
50	Improving classification of sit, stand, and lie in a smartphone human activity recognition system. , 2015, , .		17
51	Engineering design review of stance-control knee-ankle-foot orthoses. Journal of Rehabilitation Research and Development, 2009, 46, 257-67.	1.6	17
52	Gait adaptations of transfemoral prosthesis users across multiple walking tasks. Prosthetics and Orthotics International, 2016, 40, 89-95.	0.5	16
53	Prediction of Freezing of Gait in Parkinson's Disease from Foot Plantar-Pressure Arrays using a Convolutional Neural Network. , 2020, 2020, 244-247.		16
54	Fall risk classification for people with lower extremity amputations using random forests and smartphone sensor features from a 6-minute walk test. PLoS ONE, 2021, 16, e0247574.	1.1	15

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55	Gait evaluation of a transfemoral prosthetic simulator. Archives of Physical Medicine and Rehabilitation, 2000, 81, 840-843.	0.5	14
56	Understanding dynamic stability from pelvis accelerometer data and the relationship to balance and mobility in transtibial amputees. Gait and Posture, 2015, 41, 808-812.	0.6	14
57	Changes to level ground transtibial amputee gait with a weighted backpack. Clinical Biomechanics, 2014, 29, 149-154.	0.5	13
58	A quantitative method for comparing and evaluating manual prosthetic socket modifications. IEEE Transactions on Rehabilitation Engineering: A Publication of the IEEE Engineering in Medicine and Biology Society, 1996, 4, 303-309.	1.4	12
59	Change-of-state determination to recognize mobility activities using a BlackBerry smartphone. , 2011, 2011, 5252-5.		12
60	Estimating upper extremity joint loads of persons with spinal cord injury walking with a lower extremity powered exoskeleton and forearm crutches. Journal of Biomechanics, 2020, 107, 109835.	0.9	12
61	Evaluation of motion platform embedded with dual belt treadmill instrumented with two force plates. Journal of Rehabilitation Research and Development, 2015, 52, 221-234.	1.6	11
62	Gait differences between K3 and K4 persons with transfemoral amputation across level and non-level walking conditions. Prosthetics and Orthotics International, 2018, 42, 626-635.	0.5	11
63	Title is missing!. Journal of Medical and Biological Engineering, 2012, 32, 265.	1.0	11
64	Mechanical and biomechanical analysis of a linear piston design for angular-velocity-based orthotic control. Journal of Rehabilitation Research and Development, 2013, 50, 43.	1.6	10
65	Analysis of dual-task elderly gait using wearable plantar-pressure insoles and accelerometer. , 2014, 2014, 5003-6.		10
66	Center of pressure and total force analyses for amputees walking with a backpack load over four surfaces. Applied Ergonomics, 2016, 52, 169-176.	1.7	10
67	Lower extremity robotic exoskeleton training: Case studies for complete spinal cord injury walking. NeuroRehabilitation, 2017, 41, 97-103.	0.5	10
68	Flexible dry electrode for recording surface electromyogram. , 2010, , .		9
69	Surface electromyographic signals using a dry electrode. , 2010, , .		9
70	Understanding responses to gait instability from plantar pressure measurement and the relationship to balance and mobility in lower-limb amputees. Clinical Biomechanics, 2016, 32, 241-248.	0.5	8
71	Maintaining stable transtibial amputee gait on level and simulated uneven conditions in a virtual environment. Disability and Rehabilitation: Assistive Technology, 2021, 16, 40-48.	1.3	8
72	GLOBAL STANDARDS FOR PROSTHETICS AND ORTHOTICS. Canadian Prosthetics & Orthotics Journal, 0, , .	0.2	8

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73	A CAD analysis programme for prosthetics and orthotics. <i>Prosthetics and Orthotics International</i> , 1994, 18, 112-117.	0.5	7
74	Telehealth strategies for remote prosthetic applications. <i>Technology and Disability</i> , 2003, 15, 145-150.	0.3	7
75	Fiducial Marker Approach for Biomechanical Smartphone-Based Measurements. , 2019, , .		7
76	Service delivery trends for a physical rehabilitation outreach program. <i>Disability and Rehabilitation</i> , 2006, 28, 1349-1359.	0.9	6
77	Lower limb sagittal kinematic and kinetic modeling of very slow walking for gait trajectory scaling. <i>PLoS ONE</i> , 2018, 13, e0203934.	1.1	6
78	Transtibial amputee gait during slope walking with the unity suspension system. <i>Gait and Posture</i> , 2018, 65, 205-212.	0.6	6
79	Effects of the unity vacuum suspension system on transtibial gait for simulated non-level surfaces. <i>PLoS ONE</i> , 2018, 13, e0199181.	1.1	6
80	Ultrasonic Tethering to Enable Side-by-Side Following for Powered Wheelchairs. <i>Sensors</i> , 2019, 19, 109.	2.1	6
81	Transtibial amputee gait with the unity suspension system. <i>Disability and Rehabilitation: Assistive Technology</i> , 2020, 15, 350-356.	1.3	6
82	Selection of Plantar-Pressure and Ankle-Acceleration Features for Freezing of Gait Detection in Parkinson's Disease using Minimum-Redundancy Maximum-Relevance. , 2020, 2020, 4034-4037.		6
83	Grouping successive freezing of gait episodes has neutral to detrimental effect on freeze detection and prediction in Parkinson's disease. <i>PLoS ONE</i> , 2021, 16, e0258544.	1.1	6
84	Preliminary Material Evaluation of Flax Fibers for Prosthetic Socket Fabrication. <i>Journal of Biomechanical Engineering</i> , 2021, 143, .	0.6	6
85	Amputee Fall Risk Classification Using Machine Learning and Smartphone Sensor Data from 2-Minute and 6-Minute Walk Tests. <i>Sensors</i> , 2022, 22, 1749.	2.1	6
86	Wearable EMG analysis for Rehabilitation (WEAR) - Surface electromyography in clinical gait analysis. , 2011, , .		5
87	Development of a wearable ultrasonic sensor and method for continuous monitoring of mechanical properties of plantar soft tissue for diabetic patients. , 2014, , .		5
88	Continuous monitoring of mechanical properties of plantar soft tissue for diabetic patients using wearable ultrasonic and force sensors. , 2016, , .		5
89	Classification of Aggressive Movements Using Smartwatches. <i>Sensors</i> , 2020, 20, 6377.	2.1	5
90	Comparison of Decision Tree and Long Short-Term Memory Approaches for Automated Foot Strike Detection in Lower Extremity Amputee Populations. <i>Sensors</i> , 2021, 21, 6974.	2.1	5

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91	Gait Evaluation of a New Electromechanical Stance-Control Knee-Ankle-Foot Orthosis. , 2006, 2006, 5924-7.		4
92	Evaluation of a Smartphone-based Human Activity Recognition System in a Daily Living Environment. Journal of Visualized Experiments, 2015, , e53004.	0.2	4
93	Hip disarticulation and hemipelvectomy prostheses: A review of the literature. Prosthetics and Orthotics International, 2021, 45, 434-439.	0.5	4
94	Mobilizing Knowledge: The Evidence Gap for Assistive Devices. Technology Innovation Management Review, 2016, 6, 39-45.	1.0	4
95	A Shockwave Approach for Web-Based Clinical Motion Analysis. Telemedicine Journal and E-Health, 2004, 10, 39-43.	1.6	3
96	A secure web-based approach for accessing transitional health information for people with traumatic brain injury. Computer Methods and Programs in Biomedicine, 2006, 81, 213-219.	2.6	3
97	Linking Bone Changes in the Distal Femur to Functional Deficits. International Journal of Osteoarchaeology, 2014, 24, 709-721.	0.6	3
98	Development of a Smart Hallway for Marker-Less Human Foot Tracking and Stride Analysis. IEEE Journal of Translational Engineering in Health and Medicine, 2021, 9, 1-12.	2.2	3
99	Video-Based Deep Learning Approach for 3D Human Movement Analysis in Institutional Hallways: A Smart Hallway. Computation, 2021, 9, 130.	1.0	3
100	Prediction of Freezing of Gait in Parkinson's Disease Using Unilateral and Bilateral Plantar-Pressure Data. Frontiers in Neurology, 2022, 13, 831063.	1.1	3
101	A Novel Augmented Reality Mobile-Based Application for Biomechanical Measurement. BioMed, 2022, 2, 255-269.	0.6	3
102	T.120 application sharing for the remote configuration of prostheses. Journal of Telemedicine and Telecare, 2004, 10, 267-271.	1.4	2
103	Changes to transtibial amputee gait with a weighted backpack on multiple surfaces. Clinical Biomechanics, 2015, 30, 1119-1124.	0.5	2
104	Evaluation of a variable resistance orthotic knee joint. , 2016, 2016, 2210-2213.		2
105	Sit-to-stand and stand-to-sit crutch use for lower extremity powered exoskeletons. , 2017, , .		2
106	Gait evaluation of a transfemoral prosthetic simulator. Archives of Physical Medicine and Rehabilitation, 2000, 81, 840-843.	0.5	2
107	Plantar Pressure Parameters for Dynamic Gait Stability Analysis. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	2
108	A trans-femoral brim adapter for CAD CAM measurements. Prosthetics and Orthotics International, 1994, 18, 40-42.	0.5	1

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109	Characteristics of a dual force plate system embedded in a six degree of freedom motion platform. , 2013, , .		1
110	Mechanical Evaluation of Unity Elevated Vacuum Suspension System. Canadian Prosthetics & Orthotics Journal, 2020, 2, .	0.2	1
111	Gait Evaluation of a New Electromechanical Stance-Control Knee-Ankle-Foot Orthosis. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	1
112	Differentiating two daily activities through analysis of short ambulatory video clips. , 2013, , .		0
113	The effect of surface inclination and limb on knee loading measures in transtibial prosthesis users. Journal of NeuroEngineering and Rehabilitation, 2019, 16, 37.	2.4	0
114	EFFECTS OF UNITY PROSTHETIC ELEVATED VACUUM SUSPENSION SYSTEM ON MINIMUM SWING TOE CLEARANCE. Canadian Prosthetics & Orthotics Journal, 2021, 5, .	0.2	0
115	Prosthetic and orthotic resources for communicating in a global village. Journal of Rehabilitation Research and Development, 2009, 46, xiii.	1.6	0
116	Mobilizing Knowledge: The Evidence Gap for Assistive Devices. Technology Innovation Management Review, 2016, 6, 39-45.	1.0	0