Billur Barshan

List of Publications by Year in Descending Order

58 papers	2,026 citations	18 h-index	44 g-index
68 ext. papers	2,391 ext. citations	3.6 avg, IF	5.34 L-index

#	Paper	IF	Citations
58	Investigating the Performance of Wearable Motion Sensors on recognizing falls and daily activities via machine learning **2022**, 126, 103365		1
57	Position Invariance for Wearables: Interchangeability and Single-Unit Usage via Machine Learning. *IEEE Internet of Things Journal*, **2021**, 8, 8328-8342	10.7	2
56	Classification of fall directions via wearable motion sensors **2021**, 103129		3
55	Classifying Daily and Sports Activities Invariantly to the Positioning of Wearable Motion Sensor Units. *IEEE Internet of Things Journal*, **2020**, 7, 4801-4815	10.7	17
54	Novel Noniterative Orientation Estimation for Wearable Motion Sensor Units Acquiring Accelerometer, Gyroscope, and Magnetometer Measurements. *IEEE Transactions on Instrumentation and Measurement*, **2020**, 69, 3206-3215	5.2	11
53	Activity Recognition Invariant to Wearable Sensor Unit Orientation Using Differential Rotational Transformations Represented by Quaternions. *Sensors*, **2018**, 18,	3.8	15
52	Global vs local classification models for multi-sensor data fusion **2018**,		1
51	Activity Recognition Invariant to Sensor Orientation with Wearable Motion Sensors. *Sensors*, **2017**, 17,	3.8	41
50	Localization and Tracking of Implantable Biomedical Sensors. *Sensors*, **2017**, 17,	3.8	25
49	Investigation of Sensor Placement for Accurate Fall Detection. *Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering*, **2017**, 225-232	0.2	6
48	Improvements in deterministic error modeling and calibration of inertial sensors and magnetometers. *Sensors and Actuators A: Physical*, **2016**, 247, 522-538	3.9	19
47	Improved deterministic measurement model for consumer-grade accelerometers. *Electronics Letters*, **2016**, 52, 529-531	1.1	1
46	Human Activity Recognition Using Tag-Based Radio Frequency Localization. *Applied Artificial Intelligence*, **2016**, 30, 153-179	2.3	5
45	Investigating Inter-Subject and Inter-Activity Variations in Activity Recognition Using Wearable Motion Sensors. *Computer Journal*, **2016**, 59, 1345-1362	1.3	14
44	Detection and evaluation of physical therapy exercises from wearable motion sensor signals by dynamic time warping **2014**,		2
43	Automated evaluation of physical therapy exercises using multi-template dynamic time warping on wearable sensor signals. *Computer Methods and Programs in Biomedicine*, **2014**, 117, 189-207	6.9	34
42	Detecting falls with wearable sensors using machine learning techniques. *Sensors*, **2014**, 14, 10691-708	3.8	215

41	Recognizing Daily and Sports Activities in Two Open Source Machine Learning Environments Using Body-Worn Sensor Units. *Computer Journal*, **2014**, 57, 1649-1667	1.3	154
40	Sensor-Activity Relevance in Human Activity Recognition with Wearable Motion Sensors and Mutual Information Criterion. *Lecture Notes in Electrical Engineering*, **2013**, 285-294	0.2	3
39	Detection and Evaluation of Physical Therapy Exercises by Dynamic Time Warping Using Wearable Motion Sensor Units. *Lecture Notes in Electrical Engineering*, **2013**, 305-314	0.2	8
38	. *IEEE Transactions on Aerospace and Electronic Systems*, **2012**, 48, 2908-2931	3.7	17
37	Investigation of personal variations in activity recognition using miniature inertial sensors and magnetometers **2012**,		1
36	Human activity recognition using tag-based localization **2012**,		1
35	Pedestrian dead reckoning employing simultaneous activity recognition cues. *Measurement Science and Technology*, **2012**, 23, 025103	2	28
34	Human activity classification with miniature inertial and magnetic sensors **2011**,		5
33	Leg motion classification with artificial neural networks using wavelet-based features of gyroscope signals. *Sensors*, **2011**, 11, 1721-43	3.8	46
32	A Compression Method Based on Compressive Sampling for 3-D Laser Range Scans of Indoor Environments. *Lecture Notes in Electrical Engineering*, **2011**, 265-270	0.2	
31	Human Activity Recognition Using Inertial/Magnetic Sensor Units. *Lecture Notes in Computer Science*, **2010**, 38-51	0.9	111
30	Representing and evaluating ultrasonic maps using active snake contours and Kohonen self-organizing feature maps. *Autonomous Robots*, **2010**, 29, 151-168	3	
29	Comparative study on classifying human activities with miniature inertial and magnetic sensors. *Pattern Recognition*, **2010**, 43, 3605-3620	7.7	338
28	Classifying human leg motions with uniaxial piezoelectric gyroscopes. *Sensors*, **2009**, 9, 8508-46	3.8	37
27	Recognizing targets from infrared intensity scan patterns using artificial neural networks. *Optical Engineering*, **2009**, 48, 017203	1.1	
26	2D simultaneous localization and mapping for unmanned aerial vehicles **2008**,		1
25	Objective Error Criterion for Evaluation of Mapping Accuracy Based on Sensor Time-of-Flight Measurements. *Sensors*, **2008**, 8, 8248-8261	3.8	3
24	Performance Evaluation of Ultrasonic Arc Map Processing Techniques by Active Snake Contours **2008**, 185-194		2

23	Target differentiation with simple infrared sensors using statistical pattern recognition techniques. *Pattern Recognition*, **2007**, 40, 2607-2620	7.7	7
22	Directional Processing of Ultrasonic Arc Maps and its Comparison with Existing Techniques. *International Journal of Robotics Research*, **2007**, 26, 797-820	5.7	11
21	Complex signal recovery from multiple fractional Fourier-transform intensities. *Applied Optics*, **2005**, 44, 4902-8	1.7	8
20	Complex signal recovery from two fractional Fourier transform intensities: order and noise dependence. *Optics Communications*, **2005**, 244, 61-70	2	9
19	Improved range estimation using simple infrared sensors without prior knowledge of surface characteristics. *Measurement Science and Technology*, **2005**, 16, 1395-1409	2	15
18	Fuzzy clustering and enumeration of target type based on sonar returns. *Pattern Recognition*, **2004**, 37, 189-199	7.7	4
17	Comparative analysis of different approaches to target differentiation and localization with sonar. *Pattern Recognition*, **2003**, 36, 1213-1231	7.7	5
16	Position-invariant surface recognition and localization using infrared sensors. *Optical Engineering*, **2003**, 42, 3589	1.1	10
15	Differentiation and localization of targets using infrared sensors. *Optics Communications*, **2002**, 210, 25-35	2	10
14	Reliability measure assignment to sonar for robust target differentiation. *Pattern Recognition*, **2002**, 35, 1403-1419	7.7	14
13	Fractional Fourier transform pre-processing for neural networks and its application to object recognition. *Neural Networks*, **2002**, 15, 131-40	9.1	32
12	Morphological surface profile extraction with multiple range sensors. *Pattern Recognition*, **2001**, 34, 1459-1467	7.7	4
11	Estimation of object location and radius of curvature using ultrasonic sonar. *Applied Acoustics*, **2001**, 62, 841-865	3.1	5
10	Neural networks for improved target differentiation and localization with sonar. *Neural Networks*, **2001**, 14, 355-73	9.1	19
9	Map Building from Range Data Using Mathematical Morphology. *World Scientific Series in Robotics and Intelligent Systems*, **2001**, 111-135		2
8	Comparison of two methods of surface profile extraction from multiple ultrasonic range measurements. *Measurement Science and Technology*, **2000**, 11, 833-844	2	12
7	Fast processing techniques for accurate ultrasonic range measurements. *Measurement Science and Technology*, **2000**, 11, 45-50	2	80
6	Perspective projections in the space-frequency plane and fractional Fourier transforms. *Journal of the Optical Society of America A: Optics and Image Science, and Vision*, **2000**, 17, 2382-90	1.8	13

5	Radius of curvature estimation and localization of targets using multiple sonar sensors. *Journal of the Acoustical Society of America*, **1999**, 105, 2318-2331	2.2	8
4	Identification of Target Primitives with Multiple Decision-Making Sonars Using Evidential Reasoning. *International Journal of Robotics Research*, **1998**, 17, 598-623	5.7	17
3	Optimal filtering with linear canonical transformations. *Optics Communications*, **1997**, 135, 32-36	2	140
2	Convolution and Filtering in Fractional Fourier Domains. *Optical Review*, **1994**, 1, 15-16	0.9	36
1	Convolution, filtering, and multiplexing in fractional Fourier domains and their relation to chirp and wavelet transforms. *Journal of the Optical Society of America A: Optics and Image Science, and Vision*, **1994**, 11, 547	1.8	366