Daniel Alvarez

List of Publications by Citations

94 papers	2,125 citations	27 h-index	44 g-index
102 ext. papers	2,569 ext. citations	3.1 avg, IF	5.1 L-index

#	Paper	IF	Citations
94	Interpretation of the Lempel-Ziv complexity measure in the context of biomedical signal analysis. *IEEE Transactions on Biomedical Engineering*, **2006**, 53, 2282-8	5	233
93	Entropy analysis of the EEG background activity in Alzheimer's disease patients. *Physiological Measurement*, **2006**, 27, 241-53	2.9	213
92	Multivariate analysis of blood oxygen saturation recordings in obstructive sleep apnea diagnosis. *IEEE Transactions on Biomedical Engineering*, **2010**, 57, 2816-24	5	89
91	Digital oximetry biomarkers for assessing respiratory function: standards of measurement, physiological interpretation, and clinical use. *Npj Digital Medicine*, **2021**, 4, 1	15.7	89
90	Utility of approximate entropy from overnight pulse oximetry data in the diagnosis of the obstructive sleep apnea syndrome. *IEEE Transactions on Biomedical Engineering*, **2007**, 54, 107-13	5	76
89	Nocturnal Oximetry-based Evaluation of Habitually Snoring Children. *American Journal of Respiratory and Critical Care Medicine*, **2017**, 196, 1591-1598	10.2	68
88	Nonlinear characteristics of blood oxygen saturation from nocturnal oximetry for obstructive sleep apnoea detection. *Physiological Measurement*, **2006**, 27, 399-412	2.9	67
87	Adaptive semi-supervised classification to reduce intersession non-stationarity in multiclass motor imagery-based brain computer interfaces. *Neurocomputing*, **2015**, 159, 186-196	5.4	59
86	Improving diagnostic ability of blood oxygen saturation from overnight pulse oximetry in obstructive sleep apnea detection by means of central tendency measure. *Artificial Intelligence in Medicine*, **2007**, 41, 13-24	7.4	58
85	Assessment of four statistical pattern recognition techniques to assist in obstructive sleep apnoea diagnosis from nocturnal oximetry. *Medical Engineering and Physics*, **2009**, 31, 971-8	2.4	55
84	Utility of AdaBoost to Detect Sleep Apnea-Hypopnea Syndrome From Single-Channel Airflow. *IEEE Transactions on Biomedical Engineering*, **2016**, 63, 636-46	5	45
83	Assessment of feature selection and classification approaches to enhance information from overnight oximetry in the context of apnea diagnosis. *International Journal of Neural Systems*, **2013**, 23, 1350020	6.2	45
82	Automated prediction of the apnea-hypopnea index from nocturnal oximetry recordings. *IEEE Transactions on Biomedical Engineering*, **2012**, 59, 141-9	5	44
81	A P300-based brain-computer interface aimed at operating electronic devices at home for severely disabled people. *Medical and Biological Engineering and Computing*, **2014**, 52, 861-72	3.1	43
80	Adaptive Stacked Generalization for Multiclass Motor Imagery-Based Brain Computer Interfaces. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2015**, 23, 702-12	4.8	41
79	Assessment of four neural network based classifiers to automatically detect red lesions in retinal images. *Medical Engineering and Physics*, **2010**, 32, 1085-93	2.4	40
78	Oxygen saturation regularity analysis in the diagnosis of obstructive sleep apnea. *Artificial Intelligence in Medicine*, **2006**, 37, 111-8	7.4	40

77	Utility of multilayer perceptron neural network classifiers in the diagnosis of the obstructive sleep apnoea syndrome from nocturnal oximetry. *Computer Methods and Programs in Biomedicine*, **2008**, 92, 79-89	6.9	38
76	Automated detection of obstructive sleep apnoea syndrome from oxygen saturation recordings using linear discriminant analysis. *Medical and Biological Engineering and Computing*, **2010**, 48, 895-902	3.1	36
75	An Asynchronous P300-Based Brain-Computer Interface Web Browser for Severely Disabled People. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2017**, 25, 1332-1342	4.8	35
74	Linear and nonlinear analysis of airflow recordings to help in sleep apnoea-hypopnoea syndrome diagnosis. *Physiological Measurement*, **2012**, 33, 1261-75	2.9	35
73	Automated Screening of Children With Obstructive Sleep Apnea Using Nocturnal Oximetry: An Alternative to Respiratory Polygraphy in Unattended Settings. *Journal of Clinical Sleep Medicine*, **2017**, 13, 693-702	3.1	35
72	Neurofeedback training with a motor imagery-based BCI: neurocognitive improvements and EEG changes in the elderly. *Medical and Biological Engineering and Computing*, **2016**, 54, 1655-1666	3.1	33
71	Pattern recognition in airflow recordings to assist in the sleep apnoea-hypopnoea syndrome diagnosis. *Medical and Biological Engineering and Computing*, **2013**, 51, 1367-80	3.1	31
70	Feature selection from nocturnal oximetry using genetic algorithms to assist in obstructive sleep apnoea diagnosis. *Medical Engineering and Physics*, **2012**, 34, 1049-57	2.4	30
69	Spectral analysis of electroencephalogram and oximetric signals in obstructive sleep apnea diagnosis. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2009**, 2009, 400-3	0.9	30
68	Evaluation of Machine-Learning Approaches to Estimate Sleep Apnea Severity From At-Home Oximetry Recordings. *IEEE Journal of Biomedical and Health Informatics*, **2019**, 23, 882-892	7.2	29
67	Utility of bispectrum in the screening of pediatric sleep apnea-hypopnea syndrome using oximetry recordings. *Computer Methods and Programs in Biomedicine*, **2018**, 156, 141-149	6.9	27
66	Diagnosis of pediatric obstructive sleep apnea: Preliminary findings using automatic analysis of airflow and oximetry recordings obtained at patients□home. *Biomedical Signal Processing and Control*, **2015**, 18, 401-407	4.9	27
65	Radial basis function classifiers to help in the diagnosis of the obstructive sleep apnoea syndrome from nocturnal oximetry. *Medical and Biological Engineering and Computing*, **2008**, 46, 323-32	3.1	25
64	Assessment of Time and Frequency Domain Entropies to Detect Sleep Apnoea in Heart Rate Variability Recordings from Men and Women. *Entropy*, **2015**, 17, 123-141	2.8	24
63	A machine learning-based test for adult sleep apnoea screening at home using oximetry and airflow. *Scientific Reports*, **2020**, 10, 5332	4.9	22
62	Oximetry use in obstructive sleep apnea. *Expert Review of Respiratory Medicine*, **2018**, 12, 665-681	3.8	22
61	Feature selection using a genetic algorithm in a motor imagery-based Brain Computer Interface. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2011**, 2011, 7703-6	0.9	21
60	The classification of oximetry signals using Bayesian neural networks to assist in the detection of obstructive sleep apnoea syndrome. *Physiological Measurement*, **2010**, 31, 375-94	2.9	19

59	Heart rate regularity analysis obtained from pulse oximetric recordings in the diagnosis of obstructive sleep apnea. *Sleep and Breathing*, **2006**, 10, 83-9	3.1	16
58	Multiscale Entropy Analysis of Unattended Oximetric Recordings to Assist in the Screening of Paediatric Sleep Apnoea at Home. *Entropy*, **2017**, 19, 284	2.8	15
57	Nonlinear measure of synchrony between blood oxygen saturation and heart rate from nocturnal pulse oximetry in obstructive sleep apnoea syndrome. *Physiological Measurement*, **2009**, 30, 967-82	2.9	15
56	Assessment of automated analysis of portable oximetry as a screening test for moderate-to-severe sleep apnea in patients with chronic obstructive pulmonary disease. *PLoS ONE*, **2017**, 12, e0188094	3.7	15
55	Assessment of oximetry-based statistical classifiers as simplified screening tools in the management of childhood obstructive sleep apnea. *Sleep and Breathing*, **2018**, 22, 1063-1073	3.1	14
54	Usefulness of recurrence plots from airflow recordings to aid in paediatric sleep apnoea diagnosis. *Computer Methods and Programs in Biomedicine*, **2020**, 183, 105083	6.9	12
53	Assessment of Airflow and Oximetry Signals to Detect Pediatric Sleep Apnea-Hypopnea Syndrome Using AdaBoost. *Entropy*, **2020**, 22,	2.8	11
52	Wavelet analysis of oximetry recordings to assist in the automated detection of moderate-to-severe pediatric sleep apnea-hypopnea syndrome. *PLoS ONE*, **2018**, 13, e0208502	3.7	11
51	Detrended fluctuation analysis of the oximetry signal to assist in paediatric sleep apnoea-hypopnoea syndrome diagnosis. *Physiological Measurement*, **2018**, 39, 114006	2.9	11
50	Irregularity and Variability Analysis of Airflow Recordings to Facilitate the Diagnosis of Paediatric Sleep Apnoea-Hypopnoea Syndrome. *Entropy*, **2017**, 19, 447	2.8	10
49	Assessment of neurofeedback training by means of motor imagery based-BCI for cognitive rehabilitation. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2014**, 2014, 3630-3	0.9	10
48	Study of the Adherence to continuous positive airway pressure Treatment in Patients with Obstructive Sleep Apnea Syndrome in the Confinement During the COVID-19 Pandemic. *Archivos De Bronconeumologia*, **2020**, 56, 818-819	0.7	10
47	A Convolutional Neural Network Architecture to Enhance Oximetry Ability to Diagnose Pediatric Obstructive Sleep Apnea. *IEEE Journal of Biomedical and Health Informatics*, **2021**, 25, 2906-2916	7.2	9
46	Reliability of machine learning to diagnose pediatric obstructive sleep apnea: Systematic review and meta-analysis. *Pediatric Pulmonology*, **2021**,	3.5	7
45	Bispectral analysis of overnight airflow to improve the pediatric sleep apnea diagnosis. *Computers in Biology and Medicine*, **2021**, 129, 104167	7	7
44	Wavelet Analysis of Overnight Airflow to Detect Obstructive Sleep Apnea in Children. *Sensors*, **2021**, 21,	3.8	7
43	Positive airway pressure and electrical stimulation methods for obstructive sleep apnea treatment: a patent review (2005 - 2014). *Expert Opinion on Therapeutic Patents*, **2015**, 25, 971-89	6.8	6
42	Analysis and classification of oximetry recordings to predict obstructive sleep apnea severity in children. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2015**, 2015, 4540-3	0.9	6

41	Regularity analysis of nocturnal oximetry recordings to assist in the diagnosis of sleep apnoea syndrome. *Medical Engineering and Physics*, **2016**, 38, 216-24	2.4	5
40	Ensemble learning for classification of motor imagery tasks in multiclass brain computer interfaces **2014**,		5
39	Spectral analysis of single-channel airflow and oxygen saturation recordings in obstructive sleep apnea detection. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2010**, 2010, 847-50	0.9	5
38	Analysis of nocturnal oxygen saturation recordings using kernel entropy to assist in sleep apnea-hypopnea diagnosis. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, 2011, 2011, 1745-8	0.9	5
37	Applying neural network classifiers in the diagnosis of the obstructive sleep apnea syndrome from nocturnal pulse oximetric recordings. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, **2007**, 2007, 5174-7		5
36	A Domotic Control System Using Brain-Computer Interface (BCI). *Lecture Notes in Computer Science*, **2011**, 345-352	0.9	5
35	Convolutional Neural Networks to Detect Pediatric Apnea-Hypopnea Events from Oximetry. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2019**, 2019, 3555-3558	0.9	5
34	Symbolic dynamics to enhance diagnostic ability of portable oximetry from the phone oximeter in the detection of paediatric sleep apnoea. *Physiological Measurement*, **2018**,	2.9	5
33	Assessment of Nocturnal Autonomic Cardiac Imbalance in Positional Obstructive Sleep Apnea. A Multiscale Nonlinear Approach. *Entropy*, **2020**, 22,	2.8	4
32	Applying time, frequency and nonlinear features from nocturnal oximetry to OSA diagnosis. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2008**, 2008, 3872-5	0.9	4
31	Obstructive sleep apnea detection using clustering classification of nonlinear features from nocturnal oximetry. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, **2007**, 2007, 1937-40		4
30	Heart rate variability spectrum characteristics in children with sleep apnea. *Pediatric Research*, **2021**, 89, 1771-1779	3.2	4
29	Automated analysis of unattended portable oximetry by means of Bayesian neural networks to assist in the diagnosis of sleep apnea **2016**,		4
28	Improving the Diagnostic Ability of Oximetry Recordings in Pediatric Sleep Apnea-Hypopnea Syndrome by Means of Multi-Class AdaBoost. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2018**, 2018, 167-170	0.9	4
27	Bispectral Analysis of Heart Rate Variability to Characterize and Help Diagnose Pediatric Sleep Apnea. *Entropy*, **2021**, 23,	2.8	4
26	Influence of Chronic Obstructive Pulmonary Disease and Moderate-To-Severe Sleep Apnoea in Overnight Cardiac Autonomic Modulation: Time, Frequency and Non-Linear Analyses. *Entropy*, **2019**, 21,	2.8	3
25	Automated analysis of nocturnal oximetry as screening tool for childhood obstructive sleep apnea-hypopnea syndrome. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2015**, 2015, 2800-3	0.9	3
24	Analytic common spatial pattern and adaptive classification for multiclass motor imagery-based BCI **2013**,		3

23	Apnea-hypopnea index estimation from spectral analysis of airflow recordings. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2012**, 2012, 3444-7	0.9	3
22	Cross approximate entropy analysis of nocturnal oximetry signals in the diagnosis of the obstructive sleep apnea syndrome. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, **2006**, 2006, 6149-52		3
21	**2016**,		3
20	Usefulness of Spectral Analysis of Respiratory Rate Variability to Help in Pediatric Sleep Apnea-Hypopnea Syndrome Diagnosis. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2019**, 2019, 4580-4583	0.9	3
19	Ensemble-learning regression to estimate sleep apnea severity using at-home oximetry in adults. *Applied Soft Computing Journal*, **2021**, 111, 107827	7.5	3
18	Usefulness of discrete wavelet transform in the analysis of oximetry signals to assist in childhood sleep apnea-hypopnea syndrome diagnosis. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International*	0.9	2
17	A classification algorithm based on spectral features from nocturnal oximetry and support vector machines to assist in the diagnosis of obstructive sleep apnea. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2009**, 2009, 5547-50	0.9	2
16	Machine learning for nocturnal diagnosis of chronic obstructive pulmonary disease using digital oximetry biomarkers. *Physiological Measurement*, **2021**, 42,	2.9	2
15	Bispectral Analysis to Enhance Oximetry as a Simplified Alternative for Pediatric Sleep Apnea Diagnosis. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2018**, 2018, 175-178	0.9	2
14	Usefulness of Artificial Neural Networks in the Diagnosis and Treatment of Sleep Apnea-Hypopnea Syndrome **2017**,		1
13	Single layer network classifiers to assist in the detection of obstructive sleep apnea syndrome from oximetry data. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2008**, 2008, 1651-4	0.9	1
12	Approximate entropy from overnight pulse oximetry for the obstructive sleep apnea syndrome. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, **2005**, 2005, 6157-60		1
11	Pediatric Sleep Apnea: The Overnight Electroencephalogram as a Phenotypic Biomarker. *Frontiers in Neuroscience*, **2021**, 15, 644697	5.1	1
10	Network Analysis on Overnight EEG Spectrum to Assess Relationships Between Paediatric Sleep Apnoea and Cognition. *IFMBE Proceedings*, **2020**, 1138-1146	0.2	1
9	A P300-Based BCI Aimed at Managing Electronic Devices for People with Severe Disabilities. *Biosystems and Biorobotics*, **2013**, 641-645	0.2	1
8	A Bayesian neural network approach to compare the spectral information from nasal pressure and thermistor airflow in the automatic sleep apnea severity estimation. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and*	0.9	1
7	Automatic Assessment of Pediatric Sleep Apnea Severity Using Overnight Oximetry and Convolutional Neural Networks. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2020**, 2020, 633-636	0.9	1
6	Pulse Rate Variability Analysis to Enhance Oximetry as at-Home Alternative for Sleep Apnea Diagnosing. *IFMBE Proceedings*, **2019**, 213-217	0.2	0

5	Statistical and nonlinear analysis of oximetry from respiratory polygraphy to assist in the diagnosis of Sleep Apnea in children. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2014**, 2014, 1860-3	0.9	0
4	Risk models for predicting in-hospital mortality from COVID-19 pneumonia in the elderly. *Emergencias*, **2021**, 33, 282-291	0.9	0
3	Automatic Sleep Staging in Children with Sleep Apnea using Photoplethysmography and Convolutional Neural Networks. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2021**, 2021, 216-219	0.9	0
2	Exploring the spectral information of airflow recordings to help in pediatric Obstructive Sleep Apnea-Hypopnea Syndrome diagnosis. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*	0.9	
1	Assessment of spectral bands of interest in airflow signal to assist in sleep apnea-hypopnea syndrome diagnosis. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2013**, 2013, 5021-4	0.9	