Tiago H Falk

List of Publications by Year
in descending order

161 papers	3,858 citations	186265 28 h-index	175258 52 g-index
164 all docs	164 docs citations	164 times ranked	3089 citing authors

#	Article	IF	Citations
1	Multi-level self-attentive TDNN: A general and efficient approach to summarize speech into discriminative utterance-level representations. Speech Communication, 2022, 140, 42-49.	2.8	6
2	Automated Beehive Acoustics Monitoring: A Comprehensive Review of the Literature and Recommendations for Future Work. Applied Sciences (Switzerland), 2022, 12, 3920.	2.5	22
3	Fusion of Modulation Spectral and Spectral Features with Symptom Metadata for Improved Speech-Based Covid-19 Detection. , 2022, , .		4
4	Head-Mounted Display-Based Virtual Reality and Physiological Computing for Stroke Rehabilitation: A Systematic Review. Frontiers in Virtual Reality, 2022, 3, .	3.7	3
5	Modulation Spectral Signal Representation for Quality Measurement and Enhancement of Wearable Device Data: A Technical Note. Sensors, 2022, 22, 4579.	3.8	2
6	Immersive media experience: a survey of existing methods and tools for human influential factors assessment. Quality and User Experience, 2022, 7, .	3.9	16
7	Feature Pooling of Modulation Spectrum Features for Improved Speech Emotion Recognition in the Wild. IEEE Transactions on Affective Computing, 2021, 12, 177-188.	8.3	37
8	Improved Gait Speed Calculation via Modulation Spectral Analysis of Noisy Accelerometer Data. IEEE Sensors Journal, 2021, 21, 520-528.	4.7	2
9	Adaptive Filtering for Improved EEG-Based Mental Workload Assessment of Ambulant Users. Frontiers in Neuroscience, 2021, 15, 611962.	2.8	22
10	Affective Neurofeedback Under Naturalistic Conditions: A Mini-Review of Current Achievements and Open Challenges. Frontiers in Neuroergonomics, 2021, 2, .	1.1	5
11	Neurofeedback and the Aging Brain: A Systematic Review of Training Protocols for Dementia and Mild Cognitive Impairment. Frontiers in Aging Neuroscience, 2021, 13, 682683.	3.4	14
12	Context-Aware Speech Stress Detection in Hospital Workers Using Bi-LSTM Classifiers. , 2021, , .		10
13	Multimodal Prediction of Alzheimer's Disease Severity Level Based on Resting-State EEG and Structural MRI. Frontiers in Human Neuroscience, 2021, 15, 700627.	2.0	7
14	A comprehensive survey on multimodal medical signals fusion for smart healthcare systems. Information Fusion, 2021, 76, 355-375.	19.1	119
15	Predicting Driver Stress Levels with a Sensor-Equipped Steering Wheel and a Quality-Aware Heart Rate Measurement Algorithm. , 2021, 2021, 6822-6825.		1
16	Improved motor imagery brain-computer interface performance via adaptive modulation filtering and two-stage classification. Biomedical Signal Processing and Control, 2020, 57, 101812.	5.7	17
17	EEG spectro-temporal amplitude modulation as a measurement of cortical hemodynamics: an EEG-fNIRS study. , 2020, 2020, 3481-3484.		5
18	Non-intrusive speech quality prediction based on the blind estimation of clean speech and the i-vector framework. Quality and User Experience, 2020, 5, 1.	3.9	0

#	Article	IF	Citations
19	Neural Interface Instrumented Virtual Reality Headsets: Toward Next-Generation Immersive Applications. IEEE Systems, Man, and Cybernetics Magazine, 2020, 6, 20-28.	1.4	19
20	3. Acoustic and prosodic analysis of vocalizations of 18-month-old toddlers with autism spectrum disorder. , 2020, , 93-126.		3
21	WAUC: A Multi-Modal Database for Mental Workload Assessment Under Physical Activity. Frontiers in Neuroscience, 2020, 14, 549524.	2.8	27
22	TILES-2018, a longitudinal physiologic and behavioral data set of hospital workers. Scientific Data, 2020, 7, 354.	5.3	36
23	PASS: A Multimodal Database of Physical Activity and Stress for Mobile Passive Body/ Brain-Computer Interface Research. Frontiers in Neuroscience, 2020, 14, 542934.	2.8	16
24	On the use of the i-vector speech representation for instrumental quality measurement. Quality and User Experience, 2020, 5, 1.	3.9	7
25	1. State-of-the-art speaker recognition methods applied to speakers with dysarthria. , 2020, , 7-34.		2
26	Generalized end-to-end detection of spoofing attacks to automatic speaker recognizers. Computer Speech and Language, 2020, 63, 101096.	4.3	37
27	Movement Artifact-Robust Mental Workload Assessment During Physical Activity Using Multi-Sensor Fusion. , 2020, , .		5
28	Saccadic Eye Movement Classification Using ExG Sensors Embedded into a Virtual Reality Headset. , 2020, , .		5
29	Initial Investigation into Neurophysiological Correlates of Argentine Tango Flow States: a Case Study. , 2020, , .		4
30	Alzheimer's Disease Diagnosis and Severity Level Detection Based on Electroencephalography Modulation Spectral â€œPatchâ€•Features. IEEE Journal of Biomedical and Health Informatics, 2019, 24, 1-1.	6.3	12
31	Intrusive Quality Measurement of Noisy and Enhanced Speech based on i-Vector Similarity. , 2019, , .		7
32	Towards the development of a non-intrusive objective quality measure for DNN-enhanced speech. , 2019, , .		4
33	Fusion of Motif- and Spectrum-Related Features for Improved EEG-Based Emotion Recognition. Computational Intelligence and Neuroscience, 2019, 2019, 1-14.	1.7	18
34	Residual convolutional neural network with attentive feature pooling for end-to-end language identification from short-duration speech. Computer Speech and Language, 2019, 58, 364-376.	4.3	16
35	Non-Intrusive Speech Quality Prediction Using Modulation Energies and LSTM-Network. IEEE/ACM Transactions on Audio Speech and Language Processing, 2019, 27, 1151-1163.	5.8	24
36	Stress and Anxiety Measurement "In-the-Wild" Using Quality-aware Multi-scale HRV Features. , 2019, 2019, 7056-7059.		5

#	Article	IF	Citations
37	A Comparative Study of Stress and Anxiety Estimation in Ecological Settings Using a Smart-shirt and a Smart-bracelet. , 2019, 2019, 2213-2216.		19
38	Evaluating the Measurement of Driver Heart and Breathing Rates from a Sensor-Equipped Steering Wheel using Spectrotemporal Signal Processing. , 2019, , .		6
39	AMA: An Open-source Amplitude Modulation Analysis Toolkit for Signal Processing Applications. , 2019, , .		2
40	A Multimodal Approach to Improve the Robustness of Physiological Stress Prediction During Physical Activity. , 2019, , .		9
41	Mental Workload Assessment During Physical Activity Using Non-linear Movement Artefact Robust Electroencephalography Features. , 2019, , .		1
42	Speech-Based Stress Classification based on Modulation Spectral Features and Convolutional Neural Networks. , 2019, , .		7
43	Automated Alzheimer's Disease Diagnosis using a Low-Density EEG Layout and New Features based on the Power of Modulation Spectral "Patches". , 2019, , .		1
44	Breathing Rate Complexity Features for "In-the-Wild" Stress and Anxiety Measurement. , 2019, , .		6
45	Spectrotemporal Modeling of Biomedical Signals: Theoretical Foundation and Applications. , 2019, , 144-163.		8
46	Multimodal Human and Environmental Sensing for Longitudinal Behavioral Studies in Naturalistic Settings: Framework for Sensor Selection, Deployment, and Management. Journal of Medical Internet Research, 2019, 21, e12832.	4.3	25
47	Lessons Learned: Recommendations For Implementing a Longitudinal Study Using Wearable and Environmental Sensors in a Health Care Organization. JMIR MHealth and UHealth, 2019, 7, e13305.	3.7	21
48	Speech Dereverberation With Context-Aware Recurrent Neural Networks. IEEE/ACM Transactions on Audio Speech and Language Processing, 2018, 26, 1236-1246.	5.8	21
49	Adaptive Spectro-Temporal Filtering for Electrocardiogram Signal Enhancement. IEEE Journal of Biomedical and Health Informatics, 2018, 22, 421-428.	6.3	19
50	On the Analysis of EEG Features for Mental Workload Assessment During Physical Activity. , 2018, , .		11
51	Toward Mental Workload Measurement Using Multimodal EEG–fNIRS Monitoring. , 2018, , 245-246.		3
52	Multimodal Assessment of Human Innovation Perception Based on Eye Tracking, Electroencephalography and Electrocardiography. , 2018, , .		0
53	A Neurophysiological Sensor-Equipped Head-Mounted Display for Instrumental QoE Assessment of Immersive Multimedia. , 2018, , .		9
54	Systematic Review on Resting-State EEG for Alzheimer's Disease Diagnosis and Progression Assessment. Disease Markers, 2018, 2018, 1-26.	1.3	195

#	Article	IF	Citations
55	Early diagnosis of mild cognitive impairment and Alzheimer's with event-related potentials and event-related desynchronization in N-back working memory tasks. Computer Methods and Programs in Biomedicine, 2018, 164, 1-13.	4.7	49
56	Fusion of bottleneck, spectral and modulation spectral features for improved speaker verification of neutral and whispered speech. Speech Communication, 2018, 102, 78-86.	2.8	10
57	Hybrid brain–computer interfaces for wheelchair control: a review of existing solutions, their advantages and open challenges. , 2018, , 229-256.		3
58	Functional near-infrared spectroscopy-based affective neurofeedback: feedback effect, illiteracy phenomena, and whole-connectivity profiles. Neurophotonics, 2018, 5, 1.	3.3	20
59	In-ear microphone speech quality enhancement via adaptive filtering and artificial bandwidth extension. Journal of the Acoustical Society of America, 2017, 141, 1321-1331.	1.1	18
60	Fusion of auditory inspired amplitude modulation spectrum and cepstral features for whispered and normal speech speaker verification. Computer Speech and Language, 2017, 45, 437-456.	4.3	22
61	Improved heart rate variability measurement based on modulation spectral processing of noisy electrocardiogram signals. , 2017, , .		2
62	Latent factor analysis for synthesized speech quality-of-experience assessment. Quality and User Experience, 2017, 2, 1.	3.9	8
63	Towards automated electroencephalography-based Alzheimer's disease diagnosis using portable low-density devices. Biomedical Signal Processing and Control, 2017, 33, 261-271.	5.7	51
64	Multimodal Physiological Quality-of-Experience Assessment of Text-to-Speech Systems. IEEE Journal on Selected Topics in Signal Processing, 2017, 11, 22-36.	10.8	7
65	Audio-Visual Multimedia Quality Assessment: A Comprehensive Survey. IEEE Access, 2017, 5, 21090-21117.	4.2	61
66	Spectro-Temporal Electrocardiogram Analysis for Noise-Robust Heart Rate and Heart Rate Variability Measurement. IEEE Journal of Translational Engineering in Health and Medicine, 2017, 5, 1-11.	3.7	20
67	Modeling Speech Level as a Function of Background Noise Level and Talker-to-Listener Distance for Talkers Wearing Hearing Protection Devices. Journal of Speech, Language, and Hearing Research, 2017, 60, 3393-3403.	1.6	3
68	EEG coupling features: Towards mental workload measurement based on wearables. , 2017, , .		6
69	Mental Task Evaluation for Hybrid NIRS-EEG Brain-Computer Interfaces. Computational Intelligence and Neuroscience, 2017, 2017, 1-24.	1.7	22
70	Speech emotion recognition on mobile devices based on modulation spectral feature pooling and deep neural networks. , 2017, , .		9
71	Speech temporal dynamics fusion approaches for noise-robust reverberation time estimation. , 2017, , .		3
72	Multimodal Affect Recognition: Current Approaches and Challenges. , 2017, , .		6

#	ARTICLE	IF	CITATIONS
73	Electroencephalography Amplitude Modulation Analysis for Automated Affective Tagging of Music Video Clips. Frontiers in Computational Neuroscience, 2017, 11, 115.	2.1	23
74	MS-QI: A Modulation Spectrum-Based ECG Quality Index for Telehealth Applications. IEEE Transactions on Biomedical Engineering, 2016, 63, 1613-1622.	4.2	52
75	Physiological quality-of-experience assessment of text-to-speech systems. , 2016, , .		1
76	Laughter detection based on the fusion of local binary patterns, spectral and prosodic features. , 2016, , .		1
77	Variations in voice level and fundamental frequency with changing background noise level and talker-to-listener distance while wearing hearing protectors: A pilot study. International Journal of Audiology, 2016, 55, S13-S20.	1.7	7
78	Using deep neural networks for natural saccade classification from electroencephalograms. , 2016, , .		2
79	A Quality Adaptive Multimodal Affect Recognition System for User-Centric Multimedia Indexing. , 2016, , .		16
80	Feature mapping, score-, and feature-level fusion for improved normal and whispered speech speaker verification. , 2016, , .		9
81	Performance comparison of intrusive and non-intrusive instrumental quality measures for enhanced speech. , 2016, , .		5
82	Using affective brain-computer interfaces to characterize human influential factors for speech quality-of-experience perception modelling. Human-centric Computing and Information Sciences, 2016, 6, .	6.1	18
83	Relevance vector classifier decision fusion and EEG graph-theoretic features for automatic affective state characterization. Neurocomputing, 2016, 174, 875-884.	5.9	83
84	On the potential for artificial bandwidth extension of bone and tissue conducted speech: a mutual information study. , 2015, , .		5
85	Affective state characterization based on electroencephalography graph-theoretic features. , 2015, , .		6
86	PhySyQX: A database for physiological evaluation of synthesised speech quality-of-experience. , 2015, , .		11
87	Objective Quality and Intelligibility Prediction for Users of Assistive Listening Devices: Advantages and limitations of existing tools. IEEE Signal Processing Magazine, 2015, 32, 114-124.	5.6	96
88	Online ECG quality assessment for context-aware wireless body area networks. , 2015, , .		10
89	MuLES. , 2015, , .		21
90	Mutual information between inter-hemispheric EEG spectro-temporal patterns: A new feature for automated affect recognition. , 2015, , .		18

#	Article	IF	Citations
91	The effects of whispered speech on state-of-the-art voice based biometrics systems. , 2015, , .		12
92	The effects of automated artifact removal algorithms on electroencephalography-based Alzheimer's disease diagnosis. Frontiers in Aging Neuroscience, 2014, 6, 55.	3.4	55
93	An improved non-intrusive intelligibility metric for noisy and reverberant speech. , 2014, , .		48
94	Updating the SRMR-CI Metric for Improved Intelligibility Prediction for Cochlear Implant Users. IEEE/ACM Transactions on Audio Speech and Language Processing, 2014, 22, 2197-2206.	5.8	18
95	A model that predicts the binaural advantage to speech intelligibility from the mixed target and interferer signals. Journal of the Acoustical Society of America, 2014, 135, 796-807.	1.1	21
96	Model Fusion for Multimodal Depression Classification and Level Detection. , 2014, , .		43
97	Investigating the use of modulation spectral features within an i-vector framework for far-field automatic speaker verification. , 2014, , .		0
98	Performance measurement for brainâ€"computer or brainâ€"machine interfaces: a tutorial. Journal of Neural Engineering, 2014, 11, 035001.	3.5	71
99	Cochlear Implant Filterbank Design and Optimization: A Simulation Study. IEEE/ACM Transactions on Audio Speech and Language Processing, 2014, 22, 347-353.	5.8	7
100	Characterization of human emotions and preferences for text-to-speech systems using multimodal neuroimaging methods. , 2014, , .		3
101	Towards automated EEG-Based Alzheimer's disease diagnosis using relevance vector machines. , 2014, , .		5
102	Approaches to Understanding the Impact of Technologies for Aging in Place: A Mini-Review. Gerontology, 2014, 60, 282-288.	2.8	43
103	Whispered Speech Detection in Noise Using Auditory-Inspired Modulation Spectrum Features. IEEE Signal Processing Letters, 2013, 20, 783-786.	3.6	16
104	Context awareness in WBANs: a survey on medical and non-medical applications. IEEE Wireless Communications, 2013, 20, 30-37.	9.0	94
105	Subjective quality ratings and physiological correlates of synthesized speech. , 2013, , .		9
106	Towards an EEG-based biomarker for Alzheimer's disease: Improving amplitude modulation analysis features. , 2013, , .		15
107	The effects of text-to-speech system quality on emotional states and frontal alpha band power. , 2013, , .		11
108	Objective speech intelligibility measurement for cochlear implant users in complex listening environments. Speech Communication, 2013, 55, 815-824.	2.8	30

#	Article	IF	Citations
109	Very early detection of Autism Spectrum Disorders based on acoustic analysis of pre-verbal vocalizations of 18-month old toddlers. , 2013, , .		23
110	Welcome message from the QoMEX 2013 chairs. , 2013, , .		0
111	On a reference-free speech quality estimator for hearing aids. Journal of the Acoustical Society of America, 2013, 133, EL412-EL418.	1.1	17
112	Objective characterization of human behavioural characteristics for QoE assessment: A pilot study on the use of electroencephalography features. , 2013, , .		7
113	Classification of vibratory patterns of the upper airway during sleep. , 2013, 2013, 2080-3.		3
114	Cognitive, affective, and experience correlates of speech quality perception in complex listening conditions. , 2013, , .		7
115	Non-intrusive objective speech quality and intelligibility prediction for hearing instruments in complex listening environments. , 2013, , .		8
116	Whispered speaker verification and gender detection using weighted instantaneous frequencies. , 2013, , .		6
117	Integration of a distance sensitive wireless communication protocol to hearing protectors equipped with in-ear microphones.. Proceedings of Meetings on Acoustics, 2013, , .	0.3	4
118	Towards blind reverberation time estimation for non-speech signals. Proceedings of Meetings on Acoustics, 2013, , .	0.3	0
119	Characterizing Alzheimer's Disease Severity via Resting-Awake EEG Amplitude Modulation Analysis. PLoS ONE, 2013, 8, e72240.	2.5	70
120	Development and evaluation of a dual-output vocal cord vibration switch for persons with multiple disabilities. Disability and Rehabilitation: Assistive Technology, 2012, 7, 82-88.	2.2	26
121	Evaluation of an ambient noise insensitive hum-based powered wheelchair controller. Disability and Rehabilitation: Assistive Technology, 2012, 7, 242-248.	2.2	1
122	Towards objective measures of speech intelligibility for Cochlear Implant users in reverberant environments. , 2012, , .		5
123	Preliminary findings on image preference characterization based on neurophysiological signal analysis: Towards objective QoE modeling. , 2012, , .		7
124	EEG amplitude modulation analysis for semi-automated diagnosis of Alzheimer's disease. Eurasip Journal on Advances in Signal Processing, 2012, 2012, .	1.7	48
125	Characterization of atypical vocal source excitation, temporal dynamics and prosody for objective measurement of dysarthric word intelligibility. Speech Communication, 2012, 54, 622-631.	2.8	69
126	EEG spectro-temporal modulation energy: A new feature for automated diagnosis of Alzheimer's disease. , 2011, 2011, 3828-31.		28

#	Article	IF	Citations
127	Taking NIRS-BCIs Outside the Lab: Towards Achieving Robustness Against Environment Noise. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2011, 19, 136-146.	4.9	66
128	On the development of a computer-based handwriting assessment tool to objectively quantify handwriting proficiency in children. Computer Methods and Programs in Biomedicine, 2011, 104, e102-e111.	4.7	60
129	A model distance maximizing framework for speech recognizer-based speech enhancement. AEU - International Journal of Electronics and Communications, 2011, 65, 99-106.	2.9	3
130	Automatic speech emotion recognition using modulation spectral features. Speech Communication, 2011, 53, 768-785.	2.8	309
131	Speech Quality Estimation: Models and Trends. IEEE Signal Processing Magazine, 2011, 28, 18-28.	5.6	108
132	Quantifying perturbations in temporal dynamics for automated assessment of spastic dysarthric speech intelligibility. , 2011, , .		10
133	A novel integrated mechanomyogram-vocalization access solution. Medical Engineering and Physics, 2010, 32, 940-944.	1.7	15
134	Modulation Spectral Features for Robust Far-Field Speaker Identification. IEEE Transactions on Audio Speech and Language Processing, 2010, 18, 90-100.	3.2	75
135	A Non-Intrusive Quality and Intelligibility Measure of Reverberant and Dereverberated Speech. IEEE Transactions on Audio Speech and Language Processing, 2010, 18, 1766-1774.	3.2	262
136	Temporal Dynamics for Blind Measurement of Room Acoustical Parameters. IEEE Transactions on Instrumentation and Measurement, 2010, 59, 978-989.	4.7	54
137	Augmentative Communication Based on Realtime Vocal Cord Vibration Detection. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2010, 18, 159-163.	4.9	31
138	Vocalization removal for improved automatic segmentation of dual-axis swallowing accelerometry signals. Medical Engineering and Physics, 2010, 32, 668-672.	1.7	15
139	On the use of peripheral autonomic signals for binary control of body–machine interfaces. Physiological Measurement, 2010, 31, 1411-1422.	2.1	3
140	Improving the performance of NIRS-based brain-computer interfaces in the presence of background auditory distractions. , 2010, , .		6
141	Classification of prefrontal activity due to mental arithmetic and music imagery using hidden Markov models and frequency domain near-infrared spectroscopy. Journal of Neural Engineering, 2010, 7, 026002.	3.5	134
142	Grip Force Variability and Its Effects on Children's Handwriting Legibility, Form, and Strokes. Journal of Biomechanical Engineering, 2010, 132, 114504.	1.3	34
143	Evaluation of a non-invasive vocal cord vibration switch as an alternative access pathway for an individual with hypotonic cerebral palsy – a case study. Disability and Rehabilitation: Assistive Technology, 2010, 5, 69-78.	2.2	20
144	Assessing the Viability of a Vocal Cord Vibration Switch for Four Children with Multiple Disabilities~!2009-10-06~!2010-02-19~!2010-04-02~!. The Open Rehabilitation Journal, 2010, 3, 55-61.	0.8	5

#	Article	IF	Citations
145	Reference-free automatic quality assessment of tracheoesophageal speech. , 2009, 2009, 6210-3.		2
146	Automatic recognition of speech emotion using long-term spectro-temporal features. , 2009, , .		29
147	Performance Study of Objective Speech Quality Measurement for Modern Wireless-VoIP Communications. Eurasip Journal on Audio, Speech, and Music Processing, 2009, 2009, 1-11.	2.1	18
148	Hybrid Signal-and-Link-Parametric Speech Quality Measurement for VoIP Communications. IEEE Transactions on Audio Speech and Language Processing, 2008, 16, 1579-1589.	3.2	16
149	Modulation filtering for heart and lung sound separation from breath sound recordings. , 2008, 2008, 1859-62.		26
150	Towards Signal-Based Instrumental Quality Diagnosis for Text-to-Speech Systems. IEEE Signal Processing Letters, 2008, 15, 781-784.	3.6	23
151	Classification of Speech Degradations at Network Endpoints Using Psychoacoustic Features. , 2007, , .		2
152	A Hybrid Signal-and-Link-Parametric Approach to Single-Ended Quality Measurement of Packetized Speech. , 2007, , .		1
153	Improving Robustness of Image Quality Measurement with Degradation Classification and Machine Learning. Conference Record of the Asilomar Conference on Signals, Systems and Computers, 2007, , .	0.0	8
154	Single-Ended Quality Measurement of Noise Suppressed Speech Based on Kullback-Leibler Distances. Journal of Multimedia, 2007, 2, .	0.3	8
155	Robust GMM Based Gender Classification using Pitch and RASTA-PLP Parameters of Speech. , 2006, , .		45
156	Breast Cancer Prognosis via Gaussian Mixture Regression. , 2006, , .		14
157	Using fNIRS to Characterize Human Perception of TTS System Quality, Comprehension, and Fluency: Preliminary Findings. , 0, , .		7
158	An improved GMM-based voice quality predictor. , 0, , .		1
159	Long-term spectro-temporal information for improved automatic speech emotion classification. , 0, , .		2
160	Performance comparison of intrusive objective speech intelligibility and quality metrics for cochlear implant users. , 0, , .		6
161	Objective Speech Quality Estimation of In-Ear Microphone Speech. , 0, , .		1