Hau-Tieng Wu

List of Publications by Year
in descending order

124 papers	5,315 citations	172386 29 h-index	88593 70 g-index
130 all docs	130 docs citations	130 times ranked	3504 citing authors

#	Article	IF	Citations
1	Strong uniform consistency with rates for kernel density estimators with general kernels on manifolds. Information and Inference, 2022, 11, 781-799.	0.9	2
2	Convergence of graph Laplacian with kNN self-tuned kernels. Information and Inference, 2022, 11, 889-957.	0.9	3
3	Get rid of the beat in mobile EEG applications: A framework towards automated cardiogenic artifact detection and removal in single-channel EEG. Biomedical Signal Processing and Control, 2022, 72, 103220.	3.5	3
4	Graph Based Gaussian Processes on Restricted Domains. Journal of the Royal Statistical Society Series B: Statistical Methodology, 2022, 84, 414-439.	1.1	3
5	Asymptotic analysis of higher-order scattering transform of Gaussian processes. Electronic Journal of Probability, 2022, 27, .	0.5	2
6	Reconsider phase reconstruction in signals with dynamic periodicity from the modern signal processing perspective. , 2022, 4, 355.		5
7	Prenatal stress perturbs fetal iron homeostasis in a sex specific manner. Scientific Reports, 2022, 12, .	1.6	2
8	On Zeroes of Random Polynomials and an Application to Unwinding. International Mathematics Research Notices, 2021, 2021, 10100-10117.	0.5	1
9	Brief Report: Can a Composite Heart Rate Variability Biomarker Shed New Insights About Autism Spectrum Disorder in School-Aged Children?. Journal of Autism and Developmental Disorders, 2021, 51, 346-356.	1.7	11
10	A new approach to complicated and noisy physiological waveforms analysis: peripheral venous pressure waveform as an example. Journal of Clinical Monitoring and Computing, 2021, 35, 637-653.	0.7	6
11	Pattern recognition algorithm to identify detrusor overactivity on urodynamics. Neurourology and Urodynamics, 2021, 40, 428-434.	0.8	18
12	On the Spectral Property of Kernel-Based Sensor Fusion Algorithms of High Dimensional Data. IEEE Transactions on Information Theory, 2021, 67, 640-670.	1.5	6
13	Cardiorespiratory coupling is associated with exercise capacity in patients with chronic obstructive pulmonary disease. BMC Pulmonary Medicine, 2021, 21, 22.	0.8	5
14	Decomposing Non-Stationary Signals With Time-Varying Wave-Shape Functions. IEEE Transactions on Signal Processing, 2021, 69, 5094-5104.	3.2	12
15	An Efficient Forecasting Approach to Reduce Boundary Effects in Real-Time Time-Frequency Analysis. IEEE Transactions on Signal Processing, 2021, 69, 1653-1663.	3.2	5
16	Wave-shape oscillatory model for nonstationary periodic time series analysis. , 2021, 3, 99.		10
17	Large-scale assessment of consistency in sleep stage scoring rules among multiple sleep centers using an interpretable machine learning algorithm. Journal of Clinical Sleep Medicine, 2021, 17, 159-166.	1.4	6
18	Fetal heart rate during maternal sleep. Developmental Psychobiology, 2021, 63, 945-959.	0.9	11

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19	A novel feature representation approach for single-lead heartbeat classification based on adaptive Fourier decomposition. International Journal of Wavelets, Multiresolution and Information Processing, 2021, 19, .	0.9	0
20	Interpretable morphological features for efficient single-lead automatic ventricular ectopy detection. Journal of Electrocardiology, 2021, 65, 55-63.	0.4	6
21	A Persistent Homology Approach to Heart Rate Variability Analysis With an Application to Sleep-Wake Classification. Frontiers in Physiology, 2021, 12, 637684.	1.3	27
22	Denoising click-evoked otoacoustic emission signals by optimal shrinkage. Journal of the Acoustical Society of America, 2021, 149, 2659-2670.	0.5	6
23	Oscillatory Biomedical Signals: Frontiers in Mathematical Models and Statistical Analysis. Frontiers in Applied Mathematics and Statistics, 2021, 7, .	0.7	1
24	Improve concentration of frequency and time (ConceFT) by novel complex spherical designs. Applied and Computational Harmonic Analysis, 2021, 54, 137-144.	1.1	2
25	Spectral convergence of graph Laplacian and heat kernel reconstruction in Lâˆž from random samples. Applied and Computational Harmonic Analysis, 2021, 55, 282-336.	1.1	16
26	On the behavior of 1-Laplacian ratio cuts on nearly rectangular domains. Information and Inference, 2021, 10, 1563-1610.	0.9	0
27	Airflow recovery from thoracic and abdominal movements using synchrosqueezing transform and locally stationary Gaussian process regression. Computational Statistics and Data Analysis, 2021, , 107384.	0.7	2
28	Explore Intrinsic Geometry of Sleep Dynamics and Predict Sleep Stage by Unsupervised Learning Techniques. Springer Optimization and Its Applications, 2021, , 279-324.	0.6	2
29	Is the Median Hourly Ambulatory Heart Rate Range Helpful in Stratifying Mortality Risk among Newly Diagnosed Atrial Fibrillation Patients?. Journal of Personalized Medicine, 2021, 11, 1202.	1.1	2
30	Theta Oscillations at Subthalamic Region Predicts Hypomania State After Deep Brain Stimulation in Parkinson's Disease. Frontiers in Human Neuroscience, 2021, 15, 797314.	1.0	4
31	Hypoventilation patterns during bronchoscopic sedation and their clinical relevance based on capnographic and respiratory impedance analysis. Journal of Clinical Monitoring and Computing, 2020, 34, 171-179.	0.7	5
32	Non-invasive biomarkers of fetal brain development reflecting prenatal stress: An integrative multi-scale multi-species perspective on data collection and analysis. Neuroscience and Biobehavioral Reviews, 2020, 117, 165-183.	2.9	31
33	Differentiation of skin incision and laparoscopic trocar insertion via quantifying transient bradycardia measured by electrocardiogram. Journal of Clinical Monitoring and Computing, 2020, 34, 753-762.	0.7	0
34	Diffuse to fuse EEG spectra â€“ Intrinsic geometry of sleep dynamics for classification. Biomedical Signal Processing and Control, 2020, 55, 101576.	3.5	26
35	Fetal heart rate variability responsiveness to maternal stress, non-invasively detected from maternal transabdominal ECG. Archives of Gynecology and Obstetrics, 2020, 301, 405-414.	0.8	26
36	Current state of nonlinear-type timeâ€“frequency analysis and applications to high-frequency biomedical signals. Current Opinion in Systems Biology, 2020, 23, 8-21.	1.3	24

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37	Solving Jigsaw Puzzles by the Graph Connection Laplacian. SIAM Journal on Imaging Sciences, 2020, 13, 1717-1753.	1.3	12
38	Portable Sleep Apnea Syndrome Screening and Event Detection Using Long Short-Term Memory Recurrent Neural Network. Sensors, 2020, 20, 6067.	2.1	17
39	Accurate detection of cerebellar smooth pursuit eye movement abnormalities via mobile phone video and machine learning. Scientific Reports, 2020, 10, 18641.	1.6	23
40	Robust T-End Detection via T-End Signal Quality Index and Optimal Shrinkage. Sensors, 2020, 20, 7052.	2.1	2
41	Novel Imaging Revealing Inner Dynamics for Cardiovascular Waveform Analysis via Unsupervised Manifold Learning. Anesthesia and Analgesia, 2020, 130, 1244-1254.	1.1	12
42	An adaptive QRS detection algorithm for ultra-long-term ECG recordings. Journal of Electrocardiology, 2020, 60, 165-171.	0.4	12
43	Transient-evoked otoacoustic emission signals predicting outcomes of acute sensorineural hearing loss in patients with MÃ©niÃ¨reâ€™s disease. Acta Oto-Laryngologica, 2020, 140, 230-235.	0.3	9
44	Save Muscle Informationâ€“Unfiltered EEG Signal Helps Distinguish Sleep Stages. Sensors, 2020, 20, 2024.	2.1	5
45	A new test for functional one-way ANOVA with applications to ischemic heart screening. Computational Statistics and Data Analysis, 2019, 132, 3-17.	0.7	35
46	A healthy dose of chaos: Using fractal frameworks for engineering higher-fidelity biomedical systems. Biomaterials, 2019, 219, 119363.	5.7	28
47	Recovery of the fetal electrocardiogram for morphological analysis from two trans-abdominal channels via optimal shrinkage. Physiological Measurement, 2019, 40, 115005.	1.2	12
48	Non-Contact Photoplethysmogram and Instantaneous Heart Rate Estimation from Infrared Face Video. , 2019, , .		14
49	Recovering Hidden Components in Multimodal Data with Composite Diffusion Operators. SIAM Journal on Mathematics of Data Science, 2019, 1, 588-616.	1.0	15
50	Unexpected sawtooth artifact in beat-to-beat pulse transit time measured from patient monitor data. PLoS ONE, 2019, 14, e0221319.	1.1	6
51	Recycling cardiogenic artifacts in impedance pneumography. Biomedical Signal Processing and Control, 2019, 51, 162-170.	3.5	9
52	Traditional Chinese medicine use is associated with lower end-stage renal disease and mortality rates among patients with diabetic nephropathy: a population-based cohort study. BMC Complementary and Alternative Medicine, 2019, 19, 81.	3.7	39
53	Diffusion geometry approach to efficiently remove electrical stimulation artifacts in intracranial electroencephalography. Journal of Neural Engineering, 2019, 16, 036010.	1.8	23
54	Connecting dots: from local covariance to empirical intrinsic geometry and locally linear embedding. Pure and Applied Analysis, 2019, 1, 515-542.	0.4	7

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55	Locally Convex Kernel Mixtures: Bayesian Subspace Learning. , 2019, , .		0
56	A Novel Blaschke Unwinding Adaptive-Fourier-Decomposition-Based Signal Compression Algorithm With Application on ECG Signals. IEEE Journal of Biomedical and Health Informatics, 2019, 23, 672-682.	3.9	58
57	Alternating diffusion maps for multimodal data fusion. Information Fusion, 2019, 45, 346-360.	11.7	22
58	Latent common manifold learning with alternating diffusion: Analysis and applications. Applied and Computational Harmonic Analysis, 2019, 47, 848-892.	1.1	17
59	Diffusion operators for multimodal data analysis. Handbook of Numerical Analysis, 2019, 20, 1-39.	0.9	0
60	Non-invasive acquisition of fetal ECG from the maternal xyphoid process: a feasibility study in pregnant sheep and a call for open data sets. Physiological Measurement, 2018, 39, 035005.	1.2	0
61	A Comparison of Five Algorithms for Fetal Magnetocardiography Signal Extraction. Cardiovascular Engineering and Technology, 2018, 9, 483-487.	0.7	8
62	Convex Optimization approach to signals with fast varying instantaneous frequency. Applied and Computational Harmonic Analysis, 2018, 44, 89-122.	1.1	25
63	Wave-Shape Function Analysis. Journal of Fourier Analysis and Applications, 2018, 24, 451-505.	0.5	52
64	Embeddings of Riemannian manifolds with finite eigenvector fields of connection Laplacian. Calculus of Variations and Partial Differential Equations, 2018, 57, 1.	0.9	1
65	Think globally, fit locally under the manifold setup: Asymptotic analysis of locally linear embedding. Annals of Statistics, 2018, 46, .	1.4	17
66	Phenotype-Based and Self-Learning Inter-Individual Sleep Apnea Screening With a Level IV-Like Monitoring System. Frontiers in Physiology, 2018, 9, 723.	1.3	4
67	A Portable Monitoring System with Automatic Event Detection for Sleep Apnea Level-IV Evaluation. , 2018, , .		1
68	Manifold Learning via the Principle Bundle Approach. Frontiers in Applied Mathematics and Statistics, 2018, 4, .	0.7	1
69	A new approach for analysis of heart rate variability and QT variability in long-term ECG recording. BioMedical Engineering OnLine, 2018, 17, 54.	1.3	11
70	Analysis of click-evoked otoacoustic emissions by concentration of frequency and time: Preliminary results from normal hearing and MÃ©niÃ¨reâ€™s disease ears. AIP Conference Proceedings, 2018, , .	0.3	0
71	Analyzing transient-evoked otoacoustic emissions by concentration of frequency and time. Journal of the Acoustical Society of America, 2018, 144, 448-466.	0.5	9
72	ConceFT for Time-Varying Heart Rate Variability Analysis as a Measure of Noxious Stimulation During General Anesthesia. IEEE Transactions on Biomedical Engineering, 2017, 64, 145-154.	2.5	15

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73	The correlation between pulse diagnosis and constitution identification in traditional Chinese medicine. Complementary Therapies in Medicine, 2017, 30, 107-112.	1.3	28
74	Heart beat classification from single-lead ECG using the synchrosqueezing transform. Physiological Measurement, 2017, 38, 171-187.	1.2	61
75	Sleep Apnea Detection Based on Thoracic and Abdominal Movement Signals of Wearable Piezoelectric Bands. IEEE Journal of Biomedical and Health Informatics, 2017, 21, 1533-1545.	3.9	54
76	Capnography monitoring the hypoventilation during the induction of bronchoscopic sedation: A randomized controlled trial. Scientific Reports, 2017, 7, 8685.	1.6	3
77	Entropy-based time-varying window width selection for nonlinear-type timeâ€“frequency analysis. International Journal of Data Science and Analytics, 2017, 3, 231-245.	2.4	32
78	Single-lead f-wave extraction using diffusion geometry. Physiological Measurement, 2017, 38, 1310-1334.	1.2	16
79	Embedding Riemannian manifolds by the heat kernel of the connection Laplacian. Advances in Mathematics, 2017, 304, 1055-1079.	0.5	13
80	Carrier Frequencies, Holomorphy, and Unwinding. SIAM Journal on Mathematical Analysis, 2017, 49, 4838-4864.	0.9	26
81	Efficient Fetal-Maternal ECG Signal Separation from Two Channel Maternal Abdominal ECG via Diffusion-Based Channel Selection. Frontiers in Physiology, 2017, 8, 277.	1.3	32
82	How Nonlinear-Type Time-Frequency Analysis Can Help in Sensing Instantaneous Heart Rate and Instantaneous Respiratory Rate from Photoplethysmography in a Reliable Way. Frontiers in Physiology, 2017, 8, 701.	1.3	30
83	Commentary: Computerised interpretation of fetal heart rate during labour (INFANT): a randomised controlled trial. Frontiers in Physiology, 2017, 8, 721.	1.3	10
84	Feasibility of Classifying Life Stages and Searching for the Determinants: Results from the Medical Expenditure Panel Survey 1996â€“2011. Frontiers in Public Health, 2017, 5, 247.	1.3	9
85	Extract Fetal ECG from Single-Lead Abdominal ECG by De-Shape Short Time Fourier Transform and Nonlocal Median. Frontiers in Applied Mathematics and Statistics, 2017, 3, .	0.7	34
86	An Exploration Algorithm for Stochastic Simulators Driven by Energy Gradients. Entropy, 2017, 19, 294.	1.1	6
87	Prediction of the severity of obstructive sleep apnea by anthropometric features via support vector machine. PLoS ONE, 2017, 12, e0176991.	1.1	26
88	A network perspective on patient experiences and health status: the Medical Expenditure Panel Survey 2004 to 2011. BMC Health Services Research, 2017, 17, 579.	0.9	15
89	Optimizing Estimates of Instantaneous Heart Rate from Pulse Wave Signals with the Synchrosqueezing Transform. Methods of Information in Medicine, 2016, 55, 463-472.	0.7	14
90	Temporal Patterns in Sheep Fetal Heart Rate Variability Correlate to Systemic Cytokine Inflammatory Response: A Methodological Exploration of Monitoring Potential Using Complex Signals Bioinformatics. PLoS ONE, 2016, 11, e0153515.	1.1	23

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91	Modeling the Pulse Signal by Wave-Shape Function and Analyzing by Synchrosqueezing Transform. PLoS ONE, 2016, 11, e0157135.	1.1	16
92	Real-time dynamics acquisition from irregular samples â€" With application to anesthesia evaluation. Analysis and Applications, 2016, 14, 537-590.	1.2	34
93	Spectral convergence of the connection Laplacian from random samples. Information and Inference, 2016, , iaw016.	0.9	11
94	Alternating projection, ptychographic imaging and phase synchronization. Applied and Computational Harmonic Analysis, 2016, 41, 815-851.	1.1	70
95	Electrocardiographic J Wave and Cardiovascular Outcomes in the General Population (from the) Tj ETQq1 1 0.784314 rgBT /Overlock 1C	0.7	13
96	Imaging Cytometry of Human Leukocytes with Third Harmonic Generation Microscopy. Scientific Reports, 2016, 6, 37210.	1.6	39
97	Graph connection Laplacian methods can be made robust to noise. Annals of Statistics, 2016, 44, .	1.4	34
98	ConceFT: concentration of frequency and time via a multitapered synchrosqueezed transform. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2016, 374, 20150193.	1.6	117
99	When Interpolation-Induced Reflection Artifact Meets Timeâ€"Frequency Analysis. IEEE Transactions on Biomedical Engineering, 2016, 63, 2133-2141.	2.5	3
100	Non-Parametric Estimation of Intraday Spot Volatility: Disentangling Instantaneous Trend and Seasonality. Econometrics, 2015, 3, 864-887.	0.5	3
101	Respiratory Variability during NAVA Ventilation in Children: AuthorsÃ¢â‚¬â„¢ Reply. Frontiers in Pediatrics, 2015, 3, 13.	0.9	2
102	Alternating diffusion for common manifold learning with application to sleep stage assessment. , 2015, , .		9
103	Exploring laser-driven quantum phenomena from a time-frequency analysis perspective: a comprehensive study. Optics Express, 2015, 23, 30459.	1.7	9
104	Automated J Wave Detection from Digital 12-lead Electrocardiogram. Journal of Electrocardiology, 2015, 48, 21-28.	0.4	13
105	Assess Sleep Stage by Modern Signal Processing Techniques. IEEE Transactions on Biomedical Engineering, 2015, 62, 1159-1168.	2.5	92
106	Impact of Ventilatory Modes on the Breathing Variability in Mechanically Ventilated Infants. Frontiers in Pediatrics, 2014, 2, 132.	0.9	17
107	Time-varying spectral analysis revealing differential effects of sevoflurane anaesthesia: non-rhythmic-to-rhythmic ratio. Acta Anaesthesiologica Scandinavica, 2014, 58, 157-167.	0.7	24
108	Evaluating Physiological Dynamics via Synchrosqueezing: Prediction of Ventilator Weaning. IEEE Transactions on Biomedical Engineering, 2014, 61, 736-744.	2.5	29

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109	Non-Parametric and Adaptive Modelling of Dynamic Periodicity and Trend with Heteroscedastic and Dependent Errors. Journal of the Royal Statistical Society Series B: Statistical Methodology, 2014, 76, 651-682.	1.1	80
110	Using synchrosqueezing transform to discover breathing dynamics from ECG signals. Applied and Computational Harmonic Analysis, 2014, 36, 354-359.	1.1	83
111	A new time-frequency method to reveal quantum dynamics of atomic hydrogen in intense laser pulses: Synchrosqueezing transform. AIP Advances, 2014, 4, 117138.	0.6	21
112	Time-Frequency Reassignment and Synchrosqueezing: An Overview. IEEE Signal Processing Magazine, 2013, 30, 32-41.	4.6	456
113	The Synchrosqueezing algorithm for time-varying spectral analysis: Robustness properties and new paleoclimate applications. Signal Processing, 2013, 93, 1079-1094.	2.1	450
114	Instantaneous frequency and wave shape functions (I). Applied and Computational Harmonic Analysis, 2013, 35, 181-199.	1.1	73
115	Augmented projections for ptychographic imaging. Inverse Problems, 2013, 29, 115009.	1.0	51
116	Heart Rate Variability Is Associated with Survival in Patients with Brain Metastasis: A Preliminary Report. BioMed Research International, 2013, 2013, 1-6.	0.9	32
117	Two-Dimensional Tomography from Noisy Projections Taken at Unknown Random Directions. SIAM Journal on Imaging Sciences, 2013, 6, 136-175.	1.3	30
118	Local Linear Regression on Manifolds and Its Geometric Interpretation. Journal of the American Statistical Association, 2013, 108, 1421-1434.	1.8	45
119	Vector diffusion maps and the connection Laplacian. Communications on Pure and Applied Mathematics, 2012, 65, 1067-1144.	1.2	154
120	Synchrosqueezing-Based Recovery of Instantaneous Frequency from Nonuniform Samples. SIAM Journal on Mathematical Analysis, 2011, 43, 2078-2095.	0.9	253
121	Orientability and diffusion maps. Applied and Computational Harmonic Analysis, 2011, 31, 44-58.	1.1	29
122	Synchrosqueezed wavelet transforms: An empirical mode decomposition-like tool. Applied and Computational Harmonic Analysis, 2011, 30, 243-261.	1.1	1,698
123	ONE OR TWO FREQUENCIES? THE SYNCHROSQUEEZING ANSWERS. Advances in Adaptive Data Analysis, 2011, 03, 29-39.	0.6	80
124	Non-Parametric Estimation of Intraday Spot Volatility: Disentangling Instantaneous Trend and Seasonality. SSRN Electronic Journal, 0, , .	0.4	0