Xiao-Sheng Si

List of Publications by Year
in descending order

141 papers	8,118 citations	126858 33 h-index	48277 88 g-index
143 all docs	143 docs citations	143 times ranked	4040 citing authors

#	Article	IF	Citations
1	A Review of Recurrent Neural Networks: LSTM Cells and Network Architectures. Neural Computation, 2019, 31, 1235-1270.	1.3	1,983
2	Remaining useful life estimation – A review on the statistical data driven approaches. European Journal of Operational Research, 2011, 213, 1-14.	3.5	1,615
3	Remaining Useful Life Estimation Based on a Nonlinear Diffusion Degradation Process. IEEE Transactions on Reliability, 2012, 61, 50-67.	3.5	460
4	Degradation data analysis and remaining useful life estimation: A review on Wiener-process-based methods. European Journal of Operational Research, 2018, 271, 775-796.	3.5	394
5	A Wiener-process-based degradation model with a recursive filter algorithm for remaining useful life estimation. Mechanical Systems and Signal Processing, 2013, 35, 219-237.	4.4	362
6	A degradation path-dependent approach for remaining useful life estimation with an exact and closed-form solution. European Journal of Operational Research, 2013, 226, 53-66.	3.5	215
7	Remaining Useful Life Prediction of Lithium-Ion Batteries Based on the Wiener Process with Measurement Error. Energies, 2014, 7, 520-547.	1.6	210
8	An Adaptive Prognostic Approach via Nonlinear Degradation Modeling: Application to Battery Data. IEEE Transactions on Industrial Electronics, 2015, 62, 5082-5096.	5.2	177
9	Estimating Remaining Useful Life With Three-Source Variability in Degradation Modeling. IEEE Transactions on Reliability, 2014, 63, 167-190.	3.5	170
10	A maintenance optimization model for mission-oriented systems based on Wiener degradation. Reliability Engineering and System Safety, 2013, 111, 183-194.	5.1	113
11	A rotating machinery fault diagnosis method based on multi-scale dimensionless indicators and random forests. Mechanical Systems and Signal Processing, 2020, 139, 106609.	4.4	109
12	A Prognostic Model Based on DBN and Diffusion Process for Degrading Bearing. IEEE Transactions on Industrial Electronics, 2020, 67, 8767-8777.	5.2	94
13	An Additive Wiener Process-Based Prognostic Model for Hybrid Deteriorating Systems. IEEE Transactions on Reliability, 2014, 63, 208-222.	3.5	73
14	An Age- and State-Dependent Nonlinear Prognostic Model for Degrading Systems. IEEE Transactions on Reliability, 2015, 64, 1214-1228.	3.5	71
15	A Residual Storage Life Prediction Approach for Systems With Operation State Switches. IEEE Transactions on Industrial Electronics, 2014, 61, 6304-6315.	5.2	68
16	A Novel Lifetime Estimation Method for Two-Phase Degrading Systems. IEEE Transactions on Reliability, 2019, 68, 689-709.	3.5	67
17	Remaining useful life prediction of machinery under time-varying operating conditions based on a two-factor state-space model. Reliability Engineering and System Safety, 2019, 186, 88-100.	5.1	67
18	A State-Space-Based Prognostic Model for Hidden and Age-Dependent Nonlinear Degradation Process. IEEE Transactions on Automation Science and Engineering, 2013, 10, 1072-1086.	3.4	65

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19	On the dynamic evidential reasoning algorithm for fault prediction. Expert Systems With Applications, 2011, 38, 5061-5080.	4.4	59
20	A Prognostic Model for Stochastic Degrading Systems With State Recovery: Application to Li-Ion Batteries. IEEE Transactions on Reliability, 2017, 66, 1293-1308.	3.5	54
21	A Nonlinear Prognostic Model for Degrading Systems With Three-Source Variability. IEEE Transactions on Reliability, 2016, 65, 736-750.	3.5	52
22	Averaged Bi-LSTM networks for RUL prognostics with non-life-cycle labeled dataset. Neurocomputing, 2020, 402, 134-147.	3.5	51
23	A New Prediction Model Based on Belief Rule Base for System's Behavior Prediction. IEEE Transactions on Fuzzy Systems, 2011, 19, 636-651.	6.5	50
24	A Generalized Result for Degradation Model-Based Reliability Estimation. IEEE Transactions on Automation Science and Engineering, 2014, 11, 632-637.	3.4	50
25	State-of-Health Estimation for Lithium-Ion Batteries Based on Wiener Process With Modeling the Relaxation Effect. IEEE Access, 2019, 7, 105186-105201.	2.6	45
26	Specifying measurement errors for required lifetime estimation performance. European Journal of Operational Research, 2013, 231, 631-644.	3.5	43
27	Remaining useful life prediction of degrading systems subjected to imperfect maintenance: Application to draught fans. Mechanical Systems and Signal Processing, 2018, 100, 802-813.	4.4	43
28	System reliability prediction model based on evidential reasoning algorithm with nonlinear optimization. Expert Systems With Applications, 2010, 37, 2550-2562.	4.4	41
29	A new remaining useful life estimation method for equipment subjected to intervention of imperfect maintenance activities. Chinese Journal of Aeronautics, 2018, 31, 514-528.	2.8	38
30	Remaining Useful Life Prediction of Lithium-Ion Batteries Based on Wiener Processes with Considering the Relaxation Effect. Energies, 2019, 12, 1685.	1.6	38
31	Joint maintenance and spare parts inventory optimization for multi-unit systems considering imperfect maintenance actions. Reliability Engineering and System Safety, 2020, 202, 106994.	5.1	37
32	Machinery Fault Diagnosis Scheme Using Redefined Dimensionless Indicators and mRMR Feature Selection. IEEE Access, 2020, 8, 40313-40326.	2.6	35
33	A Bayesian Inference for Remaining Useful Life Estimation by Fusing Accelerated Degradation Data and Condition Monitoring Data. Reliability Engineering and System Safety, 2021, 208, 107341.	5.1	34
34	A case study of remaining storage life prediction using stochastic filtering with the influence of condition monitoring. Reliability Engineering and System Safety, 2014, 132, 186-195.	5.1	32
35	Data-Driven Remaining Useful Life Prognosis Techniques. Springer Series in Reliability Engineering, 2017, , .	0.3	32
36	A Prognostic-Information-Based Order-Replacement Policy for a Non-Repairable Critical System in Service. IEEE Transactions on Reliability, 2015, 64, 721-735.	3.5	31

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37	Lifetime prognostics for deteriorating systems with time-varying random jumps. Reliability Engineering and System Safety, 2017, 167, 338-350.	5.1	30
38	A survey on life prediction of equipment. Chinese Journal of Aeronautics, 2015, 28, 25-33.	2.8	29
39	A General Stochastic Degradation Modeling Approach for Prognostics of Degrading Systems With Surviving and Uncertain Measurements. IEEE Transactions on Reliability, 2019, 68, 1080-1100.	3.5	29
40	A Survey on Anomaly Detection, Life Prediction and Maintenance Decision for Industrial Processes. Zidonghua Xuebao/Acta Automatica Sinica, 2014, 39, 711-722.	0.3	29
41	Nonlinear degradation modeling and prognostics: A Box-Cox transformation perspective. Reliability Engineering and System Safety, 2022, 217, 108120.	5.1	29
42	Balanced Adaptation Regularization Based Transfer Learning for Unsupervised Cross-Domain Fault Diagnosis. IEEE Sensors Journal, 2022, 22, 12139-12151.	2.4	29
43	Degradation modeling–based remaining useful life estimation: A review on approaches for systems with heterogeneity. Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability, 2015, 229, 343-355.	0.6	28
44	A Novel Degradation Modeling and Prognostic Framework for Closed-Loop Systems With Degrading Actuator. IEEE Transactions on Industrial Electronics, 2020, 67, 9635-9647.	5.2	28
45	An Integrated Reliability Estimation Approach With Stochastic Filtering and Degradation Modeling for Phased-Mission Systems. IEEE Transactions on Cybernetics, 2017, 47, 67-80.	6.2	27
46	An Optimal Condition-Based Replacement Method for Systems With Observed Degradation Signals. IEEE Transactions on Reliability, 2018, 67, 1281-1293.	3.5	27
47	Prognostics for Linear Stochastic Degrading Systems With Survival Measurements. IEEE Transactions on Industrial Electronics, 2020, 67, 3202-3215.	5.2	27
48	Data-model interactive prognosis for multi-sensor monitored stochastic degrading devices. Mechanical Systems and Signal Processing, 2022, 167, 108526.	4.4	27
49	A Sequential Bayesian Updated Wiener Process Model for Remaining Useful Life Prediction. IEEE Access, 2020, 8, 5471-5480.	2.6	24
50	Joint optimization of preventive maintenance and inventory management for standby systems with hybrid-deteriorating spare parts. Reliability Engineering and System Safety, 2021, 214, 107686.	5.1	24
51	Specifying Measurement Errors for Required Lifetime Estimation Performance. Springer Series in Reliability Engineering, 2017, , , 39-69.	0.3	23
52	An adaptive prognostics method for fusing CDBN and diffusion process: Application to bearing data. Neurocomputing, 2021, 421, 303-315.	3.5	23
53	Stochastic degradation process modeling and remaining useful life estimation with flexible random-effects. Journal of the Franklin Institute, 2017, 354, 2477-2499.	1.9	22
54	An Adaptive Remaining Useful Life Estimation Approach for Newly Developed System Based on Nonlinear Degradation Model. IEEE Access, 2019, 7, 82162-82173.	2.6	21

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55	Prognostics Based on Stochastic Degradation Process: The Last Exit Time Perspective. IEEE Transactions on Reliability, 2021, 70, 1158-1176.	3.5	19
56	A real-time prognostic method for the drift errors in the inertial navigation system by a nonlinear random-coefficient regression model. Acta Astronautica, 2014, 103, 45-54.	1.7	18
57	Remaining useful life estimation based on Wiener degradation processes with random failure threshold. Journal of Central South University, 2016, 23, 2230-2241.	1.2	18
58	A Novel Multi-Phase Stochastic Model for Lithium-Ion Batteriesâ€™ Degradation with Regeneration Phenomena. Energies, 2017, 10, 1687.	1.6	18
59	Nonlinear Degradation Process Modeling and Remaining Useful Life Estimation Subject to Measurement Error. Zidonghua Xuebao/Acta Automatica Sinica, 2014, 39, 530-541.	0.3	18
60	Fault prediction model based on evidential reasoning approach. Science China Information Sciences, 2010, 53, 2032-2046.	2.7	17
61	Concurrent Fault Diagnosis for Rotating Machinery Based on Vibration Sensors. International Journal of Distributed Sensor Networks, 2013, 9, 472675.	1.3	17
62	Adaptive sliding mode control of nonâ€'linear nonâ€'minimum phase system with input delay. IET Control Theory and Applications, 2017, 11, 1153-1161.	1.2	17
63	Robust Sliding Mode-Based Learning Control for MIMO Nonlinear Nonminimum Phase System in General Form. IEEE Transactions on Cybernetics, 2019, 49, 3793-3805.	6.2	17
64	Remaining Useful Life Estimation for Systems with Timeâ€'varying Mean and Variance of Degradation Processes. Quality and Reliability Engineering International, 2014, 30, 829-841.	1.4	16
65	An Adaptive Prognostic Approach Incorporating Inspection Influence for Deteriorating Systems. IEEE Transactions on Reliability, 2019, 68, 302-316.	3.5	16
66	Intelligent Fault Diagnosis Approach Based on Composite Multi-Scale Dimensionless Indicators and Affinity Propagation Clustering. IEEE Sensors Journal, 2020, 20, 11439-11453.	2.4	16
67	Dynamic evidential reasoning algorithm for systems reliability prediction. International Journal of Systems Science, 2010, 41, 783-796.	3.7	15
68	Online Updating With a Probability-Based Prediction Model Using Expectation Maximization Algorithm for Reliability Forecasting. IEEE Transactions on Systems, Man and Cybernetics, Part A: Systems and Humans, 2011, 41, 1268-1277.	3.4	15
69	Nonlinear adaptive tracking control of non-minimum phase hypersonic flight vehicles with unknown input nonlinearity. Nonlinear Dynamics, 2017, 90, 1151-1163.	2.7	15
70	Degradation data-driven approach for remaining useful life estimation. Journal of Systems Engineering and Electronics, 2013, 24, 173-182.	1.1	14
71	Planning Repeated Degradation Testing for Products With Three-Source Variability. IEEE Transactions on Reliability, 2016, 65, 640-647.	3.5	14
72	A Novel Unified and Self-Stabilizing Algorithm for Generalized Eigenpairs Extraction. IEEE Transactions on Neural Networks and Learning Systems, 2017, 28, 3032-3044.	7.2	14

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73	A multi-stage Wiener process-based prognostic model for equipment considering the influence of imperfect maintenance activities. Journal of Intelligent and Fuzzy Systems, 2018, 34, 3695-3705.	0.8	14
74	An Adaptive Prognostic Approach for Newly Developed System With Three-Source Variability. IEEE Access, 2019, 7, 53091-53102.	2.6	13
75	Remaining Useful Life Prediction Based on an Adaptive Inverse Gaussian Degradation Process With Measurement Errors. IEEE Access, 2020, 8, 3498-3510.	2.6	13
76	Unbiased parameters estimation and mis-specification analysis of Wiener process-based degradation model with random effects. Applied Mathematical Modelling, 2022, 109, 134-160.	2.2	13
77	Online joint replacement-order optimization driven by a nonlinear ensemble remaining useful life prediction method. Mechanical Systems and Signal Processing, 2022, 173, 109053.	4.4	13
78	An adaptive and nonlinear drift-based Wiener process for remaining useful life estimation. , 2011, , .		12
79	Lifetime Estimation for Multi-Phase Deteriorating Process with Random Abrupt Jumps. Sensors, 2019, 19, 1472.	2.1	12
80	Remaining Useful Life Prediction Under Imperfect Prior Degradation Information. IEEE Access, 2020, 8, 189262-189275.	2.6	10
81	A novel iterative approach of lifetime estimation for standby systems with deteriorating spare parts. Reliability Engineering and System Safety, 2020, 201, 106960.	5.1	10
82	Bayesian Deep-Learning-Based Prognostic Model for Equipment Without Label Data Related to Lifetime. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2023, 53, 504-517.	5.9	10
83	Degradation Data-Driven Remaining Useful Life Estimation in the Absence of Prior Degradation Knowledge. Journal of Control Science and Engineering, 2017, 2017, 1-11.	0.8	9
84	Remaining Useful Life Prediction for Nonlinear Degraded Equipment With Bivariate Time Scales. IEEE Access, 2019, 7, 165166-165180.	2.6	9
85	Remaining Useful Life Prediction With Fusing Failure Time Data and Field Degradation Data With Random Effects. IEEE Access, 2020, 8, 11964-11978.	2.6	9
86	A Note on Parameters Estimation for Nonlinear Wiener Processes With Measurement Errors. IEEE Access, 2019, 7, 176756-176766.	2.6	8
87	A simulation-based remaining useful life prediction method considering the influence of maintenance activities. , 2014, , .		7
88	Nonlinear Step-Stress Accelerated Degradation Modeling and Remaining Useful Life Estimation Considering Multiple Sources of Variability. IEEE Access, 2019, 7, 124558-124575.	2.6	7
89	Fault Diagnosis Based on Multi-Scale Redefined Dimensionless Indicators and Density Peak Clustering With Geodesic Distances. IEEE Access, 2020, 8, 84777-84791.	2.6	7
90	NHPP Testability Growth Model Considering Testability Growth Effort, Rectifying Delay, and Imperfect Correction. IEEE Access, 2020, 8, 9072-9083.	2.6	7

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91	A joint order-replacement policy for deteriorating components with reliability constraint. Science China Information Sciences, 2021, 64, 1.	2.7	6
92	Optimal replacement of degrading components: a control-limit policy. Science China Information Sciences, 2021, 64, 1.	2.7	6
93	An off-online fuzzy modelling method for fault prognosis with an application. , 2012, , .		5
94	Adaptive tracking control of MIMO nonlinear nonminimum phase system with unknown input nonlinearity. International Journal of Robust and Nonlinear Control, 2018, 28, 596-610.	2.1	5
95	An Age-Dependent and State-Dependent Adaptive Prognostic Approach for Hidden Nonlinear Degrading System. IEEE/CAA Journal of Automatica Sinica, 2022, 9, 907-921.	8.5	5
96	An Adaptive Prognostic Approach for Partially Observable Degrading Products With Random Shocks. IEEE Sensors Journal, 2021, 21, 17926-17946.	2.4	5
97	An adaptive Wiener-maximum-process-based model for remaining useful life estimation. , 2011, , .		4
98	Modified Bayesian D-Optimality for Accelerated Degradation Test Design With Model Uncertainty. IEEE Access, 2019, 7, 42181-42189.	2.6	4
99	Online remaining-useful-life estimation with a Bayesian-updated expectation-conditional-maximization algorithm and a modified Bayesian-model-averaging method. Science China Information Sciences, 2021, 64, 1.	2.7	4
100	A real-time variable cost-based maintenance model from prognostic information. , 2012, , .		3
101	A new remaining useful life prediction approach for independent component based on the Wiener process and Bayesian estimating paradigm. , 2013, , .		3
102	A compound fault integrated diagnosis method for rotating machinery base on dimensionless immune detector. , 2013, , .		3
103	A prognostic approach for systems subject to wiener degradation process with cumulative-type random shocks. , 2017, , .		3
104	Specification analysis of the deteriorating sensor for required lifetime prognostic performance. Microelectronics Reliability, 2018, 85, 71-83.	0.9	3
105	A Data-Fusion Based Prognostic Method for Complex Degrading System. , 2019, , .		3
106	Study on an intelligent fault-tolerant technique for multiple satellite configured navigation under highly dynamic conditions. Science China Information Sciences, 2011, 54, 529-541.	2.7	2
107	A degradation-modeling based prognostic approach for systems with switching operating process. , 2016, , .		2
108	A Real-Time Variable Cost-Based Maintenance Model. Springer Series in Reliability Engineering, 2017, , 393-404.	0.3	2

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109	Life Prediction Approach by Integrating Nonlinear Accelerated Degradation Model and Hazard Rate Model. , 2018, , .		2
110	A New Condition-Based Maintenance Decision Model for Degraded Equipment Subjected to Random Shocks. , 2020, , .		2
111	A New Missing Data Generation Method Based on An Improved DCGAN With Application to RUL Prediction. , 2021, , .		2
112	Residual life estimation of lithium-ion batteries based on nonlinear Wiener process with measurement error. Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability, 0, , 1748006X2210803.	0.6	2
113	Prognostics based on the generalized diffusion process with parameters updated by a sequential Bayesian method. Science China Information Sciences, 2022, 65, .	2.7	2
114	A prognostic model for degrading systems with randomly arriving shocks. , 2016, , .		1
115	An Adaptive Spare Parts Demand Forecasting Method Based on Degradation Modeling. Springer Series in Reliability Engineering, 2017, , 405-417.	0.3	1
116	Variable Cost-Based Maintenance and Inventory Model. Springer Series in Reliability Engineering, 2017, , 419-430.	0.3	1
117	Planning Repeated Degradation Testing for Degrading Products. Springer Series in Reliability Engineering, 2017, , 23-37.	0.3	1
118	Adaptive Prognostic Approach via Nonlinear Degradation Modeling. Springer Series in Reliability Engineering, 2017, , 247-271.	0.3	1
119	Lifetime Prognostics for Multi-Phase Degradation with Random Jump at the Change Point. , 2018, , .		1
120	Estimating Remaining Useful Life for Degrading Systems with Large Fluctuations. Journal of Control Science and Engineering, 2018, 2018, 1-11.	0.8	1
121	New dimensionless parameter construction using genetic programming for fault classifying of rotating machinery. , 2013, , .		0
122	Forecasting spare parts demand based on degradation modeling. , 2013, , .		0
123	A method for specifying critical threshold of Wiener degradation process. , 2014, , .		0
124	A prognosis approach for systems with Alternative Degradation and Recovery. , 2015, , .		0
125	Modeling for Prognostics and Health Management: Methods and Applications. Mathematical Problems in Engineering, 2015, 2015, 1-4.	0.6	0
126	An adaptive spare parts demand forecasting method based on degradation modeling. , 2015, , .		0

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127	An improved remaining useful life prediction method for system with volatile degradation path. , 2016, , .		0
128	Risk evaluation for deteriorating systems with accuracy analysis of parameter estimation. , 2016, , .		0
129	Advances in Data-Driven RUL Prognosis Techniques. Springer Series in Reliability Engineering, 2017, , 3-21.	0.3	0
130	An Adaptive Remaining Useful Life Estimation Approach with a Recursive Filter. Springer Series in Reliability Engineering, 2017, , 73-102.	0.3	0
131	An Exact and Closed-Form Solution to Degradation Path-Dependent RUL Estimation. Springer Series in Reliability Engineering, 2017, , 103-142.	0.3	0
132	Estimating RUL with Three-Source Variability in Degradation Modeling. Springer Series in Reliability Engineering, 2017, , 143-180.	0.3	0
133	Prognostics for Age- and State-Dependent Nonlinear Degrading Systems. Springer Series in Reliability Engineering, 2017, , 217-246.	0.3	0
134	Prognostics for Hidden and Age-Dependent Nonlinear Degrading Systems. Springer Series in Reliability Engineering, 2017, , 273-311.	0.3	0
135	Prognostics for Nonlinear Degrading Systems with Three-Source Variability. Springer Series in Reliability Engineering, 2017, , 313-336.	0.3	0
136	RSL Prediction Approach for Systems with Operation State Switches. Springer Series in Reliability Engineering, 2017, , 337-360.	0.3	0
137	RUL Estimation Based on a Nonlinear Diffusion Degradation Process. Springer Series in Reliability Engineering, 2017, , 183-215.	0.3	0
138	A new age-dependent degradation model based on diffusion process. , 2017, , .		0
139	Predicting remaining useful life of degraded control systems considering three-source factors. , 2017, , .		0
140	A novel life prediction method for equipment considering the influence of imperfect maintenance activities. , 2017, , .		0
141	Lifetime estimation for battery with the regeneration phenomena in both degradation state and rate. , 2017, , .		0