Xiaoji Niu

List of Publications by Year
in descending order

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		94269	106150
117	4,676	37	65
papers	citations	h-index	g-index

117	117	117	3511
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Magnetometer Bias Insensitive Magnetic Field Matching Based on Pedestrian Dead Reckoning for Smartphone Indoor Positioning. IEEE Sensors Journal, 2022, 22, 4790-4799.	2.4	14
2	Pedestrian Trajectory Estimation Based on Foot-Mounted Inertial Navigation System for Multistory Buildings in Postprocessing Mode. IEEE Internet of Things Journal, 2022, 9, 6879-6892.	5.5	16
3	Mounting Parameter Estimation From Velocity Vector Observations for Land Vehicle Navigation. IEEE Transactions on Industrial Electronics, 2022, 69, 4234-4244.	5.2	14
4	Inertial Sensing Meets Machine Learning: Opportunity or Challenge?. IEEE Transactions on Intelligent Transportation Systems, 2022, 23, 9995-10011.	4.7	19
5	Off-Line Evaluation of Indoor Positioning Systems in Different Scenarios: The Experiences From IPIN 2020 Competition. IEEE Sensors Journal, 2022, 22, 5011-5054.	2.4	35
6	Onboard Train Localization Based on Railway Track Irregularity Matching. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-13.	2.4	6
7	High-Rate Attitude Determination of Moving Vehicles With GNSS: GPS, BDS, GLONASS, and Galileo. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-13.	2.4	9
8	OdoNet: Untethered Speed Aiding for Vehicle Navigation Without Hardware Wheeled Odometer. IEEE Sensors Journal, 2022, 22, 12197-12208.	2.4	13
9	A Multimagnetometer Array and Inner IMU-Based Capsule Endoscope Positioning System. IEEE Internet of Things Journal, 2022, 9, 21194-21203.	5.5	1
10	Experimental Study on the Potential of Vehicleâ€™s Attitude Response to Railway Track Irregularity in Precise Train Localization. IEEE Transactions on Intelligent Transportation Systems, 2022, 23, 20452-20463.	4.7	3
11	LiDAR Odometry by Deep Learning-Based Feature Points with Two-Step Pose Estimation. Remote Sensing, 2022, 14, 2764.	1.8	7
12	Magnetic Field-Enhanced Learning-Based Inertial Odometry for Indoor Pedestrian. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-13.	2.4	8
13	Estimate the Pitch and Heading Mounting Angles of the IMU for Land Vehicular GNSS/INS Integrated System. IEEE Transactions on Intelligent Transportation Systems, 2021, 22, 6503-6515.	4.7	51
14	Doppler Shift Mitigation in Acoustic Positioning Based on Pedestrian Dead Reckoning for Smartphone. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-11.	2.4	16
15	A Simple Positioning System for Large-Scale Indoor Patrol Inspection Using Foot-Mounted INS, QR Code Control Points, and Smartphone. IEEE Sensors Journal, 2021, 21, 4938-4948.	2.4	20
16	Evaluating the navigation performance of multi-information integration based on low-end inertial sensors for precision agriculture. Precision Agriculture, 2021, 22, 627-646.	3.1	14
17	Toward Location-Enabled IoT (LE-IoT): IoT Positioning Techniques, Error Sources, and Error Mitigation. IEEE Internet of Things Journal, 2021, 8, 4035-4062.	5.5	91
18	A Novel Position and Orientation System for Pedestrian Indoor Mobile Mapping System. IEEE Sensors Journal, 2021, 21, 2104-2114.	2.4	21

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19	Wheel-INS: A Wheel-Mounted MEMS IMU-Based Dead Reckoning System. IEEE Transactions on Vehicular Technology, 2021, 70, 9814-9825.	3.9	14
20	A Comparison of Three Measurement Models for the Wheel-Mounted MEMS IMU-Based Dead Reckoning System. IEEE Transactions on Vehicular Technology, 2021, 70, 11193-11203.	3.9	14
21	Indoor navigation: state of the art and future trends. Satellite Navigation, 2021, 2, .	4.6	96
22	Spatial Structure-Related Sensory Landmarks Recognition Based on Long Short-Term Memory Algorithm. Micromachines, 2021, 12, 781.	1.4	3
23	A High-Accuracy Indoor Localization System and Applications Based on Tightly Coupled UWB/INS/Floor Map Integration. IEEE Sensors Journal, 2021, 21, 18166-18177.	2.4	38
24	GNSS/INS/ODO/wheel angle integrated navigation algorithm for an all-wheel steering robot. Measurement Science and Technology, 2021, 32, 115122.	1.4	10
25	Improving the Navigation Performance of the MEMS IMU Array by Precise Calibration. IEEE Sensors Journal, 2021, 21, 26050-26058.	2.4	11
26	Fast and Accurate Initialization for Monocular Vision/INS/GNSS Integrated System on Land Vehicle. IEEE Sensors Journal, 2021, 21, 26074-26085.	2.4	8
27	Semi-analytical assessment of the relative accuracy of the GNSS/INS in railway track irregularity measurements. Satellite Navigation, 2021, 2, .	4.6	7
28	An Efficient and Robust Indoor Magnetic Field Matching Positioning Solution Based on Consumer-Grade IMUs for Smartphones. Lecture Notes in Electrical Engineering, 2021, , 535-545.	0.3	1
29	IMU Mounting Angle Calibration for Pipeline Surveying Apparatus. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 1765-1774.	2.4	28
30	Orientation-Aided Stochastic Magnetic Matching for Indoor Localization. IEEE Sensors Journal, 2020, 20, 1003-1010.	2.4	10
31	Cost-Effective Localization Using RSS From Single Wireless Access Point. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 1860-1870.	2.4	17
32	Deep Reinforcement Learning (DRL): Another Perspective for Unsupervised Wireless Localization. IEEE Internet of Things Journal, 2020, 7, 6279-6287.	5.5	68
33	Improved IMU Preintegration with Gravity Change and Earth Rotation for Optimization-Based GNSS/VINS. Remote Sensing, 2020, 12, 3048.	1.8	8
34	Rapid and accurate initial alignment of the low-cost MEMS IMU chip dedicated for tilted RTK receiver. GPS Solutions, 2020, 24, 1.	2.2	9
35	Evaluation on Nonholonomic Constraints and Rauchâ€“Tungâ€“Striebel Filter-Enhanced UWB/INS Integration. Mathematical Problems in Engineering, 2020, 2020, 1-14.	0.6	1
36	GNSS/IMU/ODO/LiDAR-SLAM Integrated Navigation System Using IMU/ODO Pre-Integration. Sensors, 2020, 20, 4702.	2.1	48

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37	Near Relation-Based Indoor Positioning Method under Sparse Wi-Fi Fingerprints. ISPRS International Journal of Geo-Information, 2020, 9, 714.	1.4	2
38	Pole-Like Object Extraction and Pole-Aided GNSS/IMU/LiDAR-SLAM System in Urban Area. Sensors, 2020, 20, 7145.	2.1	8
39	Required Lever Arm Accuracy of Non-Holonomic Constraint for Land Vehicle Navigation. IEEE Transactions on Vehicular Technology, 2020, 69, 8305-8316.	3.9	30
40	Implementation and Performance of a Deeply-Coupled GNSS Receiver with Low-Cost MEMS Inertial Sensors for Vehicle Urban Navigation. Sensors, 2020, 20, 3397.	2.1	14
41	Impact Assessment of Various IMU Error Sources on the Relative Accuracy of the GNSS/INS Systems. IEEE Sensors Journal, 2020, 20, 5026-5038.	2.4	39
42	Navigation Engine Design for Automated Driving Using INS/GNSS/3D LiDAR-SLAM and Integrity Assessment. Remote Sensing, 2020, 12, 1564.	1.8	37
43	A Hybrid Sliding Window Optimizer for Tightly-Coupled Vision-Aided Inertial Navigation System. Sensors, 2019, 19, 3418.	2.1	5
44	Positioning Accuracy of a Pipeline Surveying System Based on MEMS IMU and Odometer: Case Study. IEEE Access, 2019, 7, 104453-104461.	2.6	23
45	The Integration of Photodiode and Camera for Visible Light Positioning by Using Fixed-Lag Ensemble Kalman Smoother. Remote Sensing, 2019, 11, 1387.	1.8	6
46	Evaluating Indoor Positioning Systems in a Shopping Mall: The Lessons Learned From the IPIN 2018 Competition. IEEE Access, 2019, 7, 148594-148628.	2.6	60
47	Kinematic Measurement of the Railway Track Centerline Position by GNSS/INS/Odometer Integration. IEEE Access, 2019, 7, 157241-157253.	2.6	22
48	Consistent ST-EKF for Long Distance Land Vehicle Navigation Based on SINS/OD Integration. IEEE Transactions on Vehicular Technology, 2019, 68, 10525-10534.	3.9	44
49	Robust Kalman Filter Aided GEO/IGSO/GPS Raw-PPP/INS Tight Integration. Sensors, 2019, 19, 417.	2.1	14
50	Wireless Fingerprinting Uncertainty Prediction Based on Machine Learning. Sensors, 2019, 19, 324.	2.1	33
51	Assessment of the effect of GNSS sampling rate on GNSS/INS relative accuracy on different time scales for precision measurements. Measurement: Journal of the International Measurement Confederation, 2019, 145, 583-593.	2.5	8
52	IMU/Magnetometer/Barometer/Mass-Flow Sensor Integrated Indoor Quadrotor UAV Localization with Robust Velocity Updates. Remote Sensing, 2019, 11, 838.	1.8	25
53	Research on Time-Correlated Errors Using Allan Variance in a Kalman Filter Applicable to Vector-Tracking-Based GNSS Software-Defined Receiver for Autonomous Ground Vehicle Navigation. Remote Sensing, 2019, 11, 1026.	1.8	12
54	GNSS/INS/LiDAR-SLAM Integrated Navigation System Based on Graph Optimization. Remote Sensing, 2019, 11, 1009.	1.8	85

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55	Design of a Smartphone Indoor Positioning Dynamic Ground Truth Reference System Using Robust Visual Encoded Targets. Sensors, 2019, 19, 1261.	2.1	8
56	Data Fusion of Dual Foot-Mounted IMU for Pedestrian Navigation. IEEE Sensors Journal, 2019, 19, 4577-4584.	2.4	55
57	Tight Fusion of a Monocular Camera, MEMS-IMU, and Single-Frequency Multi-GNSS RTK for Precise Navigation in GNSS-Challenged Environments. Remote Sensing, 2019, 11, 610.	1.8	82
58	Calibrating Multi-Channel RSS Observations for Localization Using Gaussian Process. IEEE Wireless Communications Letters, 2019, 8, 1116-1119.	3.2	12
59	Enhanced Wireless Localization Based on Orientation-Compensation Model and Differential Received Signal Strength. IEEE Sensors Journal, 2019, 19, 4201-4210.	2.4	10
60	Pole-Like Street Furniture Segmentation and Classification in Mobile LiDAR Data by Integrating Multiple Shape-Descriptor Constraints. Remote Sensing, 2019, 11, 2920.	1.8	11
61	Requirement Assessment of the Relative Spatial Accuracy of a Motion-Constrained GNSS/INS in Shortwave Track Irregularity Measurement. Sensors, 2019, 19, 5296.	2.1	16
62	Artificial Marker and MEMS IMU-Based Pose Estimation Method to Meet Multirotor UAV Landing Requirements. Sensors, 2019, 19, 5428.	2.1	9
63	Toward Robust Crowdsourcing-Based Localization: A Fingerprinting Accuracy Indicator Enhanced Wireless/Magnetic/Inertial Integration Approach. IEEE Internet of Things Journal, 2019, 6, 3585-3600.	5.5	87
64	Carrier phase prediction method for GNSS precise positioning in challenging environment. Advances in Space Research, 2019, 63, 2164-2174.	1.2	5
65	High-rate multi-GNSS attitude determination: experiments, comparisons with inertial measurement units and applications of GNSS rotational seismology to the 2011 Tohoku Mw9.0 earthquake. Measurement Science and Technology, 2019, 30, 024003.	1.4	31
66	Enhanced Gaussian Process-Based Localization Using a Low Power Wide Area Network. IEEE Communications Letters, 2019, 23, 164-167.	2.5	15
67	Odometer, low-cost inertial sensors, and four-GNSS data to enhance PPP and attitude determination. GPS Solutions, 2018, 22, 1.	2.2	23
68	A Pervasive Integration Platform of Low-Cost MEMS Sensors and Wireless Signals for Indoor Localization. IEEE Internet of Things Journal, 2018, 5, 4616-4631.	5.5	52
69	Railway irregularity measuring using Rauchâ€“Tungâ€“Striebel smoothed multi-sensors fusion system: quad-GNSS PPP, IMU, odometer, and track gauge. GPS Solutions, 2018, 22, 1.	2.2	34
70	A Localization Database Establishment Method Based on Crowdsourcing Inertial Sensor Data and Quality Assessment Criteria. IEEE Internet of Things Journal, 2018, 5, 4764-4777.	5.5	43
71	Fast Signals of Opportunity Fingerprint Database Maintenance with Autonomous Unmanned Ground Vehicle for Indoor Positioning. Sensors, 2018, 18, 3419.	2.1	13
72	Indoor Positioning Based on Pedestrian Dead Reckoning and Magnetic Field Matching for Smartphones. Sensors, 2018, 18, 4142.	2.1	35

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73	Towards Location Enhanced IoT: Characterization of LoRa Signal For Wide Area Localization. , 2018, , .		14
74	Multi-Sensor Multi-Floor 3D Localization With Robust Floor Detection. IEEE Access, 2018, 6, 76689-76699.	2.6	50
75	High-Accuracy Positioning in Urban Environments Using Single-Frequency Multi-GNSS RTK/MEMS-IMU Integration. Remote Sensing, 2018, 10, 205.	1.8	96
76	A Railway Track Geometry Measuring Trolley System Based on Aided INS. Sensors, 2018, 18, 538.	2.1	62
77	Robust Pedestrian Dead Reckoning Based on MEMS-IMU for Smartphones. Sensors, 2018, 18, 1391.	2.1	101
78	Tightly coupled integration of multi-GNSS PPP and MEMS inertial measurement unit data. GPS Solutions, 2017, 21, 377-391.	2.2	56
79	Error analysis of high-rate GNSS precise point positioning for seismic wave measurement. Advances in Space Research, 2017, 59, 2691-2713.	1.2	30
80	Evaluation on the impact of IMU grades on BDS + GPS PPP/INS tightly coupled integration. Advances in Space Research, 2017, 60, 1283-1299.	1.2	19
81	Ionospheric and receiver DCB-constrained multi-GNSS single-frequency PPP integrated with MEMS inertial measurements. Journal of Geodesy, 2017, 91, 1351-1366.	1.6	32
82	INS-aided tracking with FFT frequency discriminator for weak GPS signal under dynamic environments. GPS Solutions, 2017, 21, 917-926.	2.2	8
83	An improved inertial/wifi/magnetic fusion structure for indoor navigation. Information Fusion, 2017, 34, 101-119.	11.7	111
84	Improving the Design of MEMS INS-Aided PLLs for GNSS Carrier Phase Measurement under High Dynamics. Micromachines, 2017, 8, 135.	1.4	12
85	Modeling and Quantitative Analysis of GNSS/INS Deep Integration Tracking Loops in High Dynamics. Micromachines, 2017, 8, 272.	1.4	5
86	Tightly-Coupled Integration of Multi-GNSS Single-Frequency RTK and MEMS-IMU for Enhanced Positioning Performance. Sensors, 2017, 17, 2462.	2.1	47
87	Smartphone-Based Indoor Localization with Bluetooth Low Energy Beacons. Sensors, 2016, 16, 596.	2.1	334
88	An IMU Evaluation Method Using a Signal Grafting Scheme. Sensors, 2016, 16, 854.	2.1	5
89	A Profile-Matching Method for Wireless Positioning. IEEE Communications Letters, 2016, 20, 2514-2517.	2.5	23
90	Modeling and verifying the impact of time delay on INS-aided GNSS PLLs. GPS Solutions, 2016, 20, 725-736.	2.2	4

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91	A Hybrid WiFi/Magnetic Matching/PDR Approach for Indoor Navigation With Smartphone Sensors. IEEE Communications Letters, 2016, 20, 169-172.	2.5	86
92	Evaluation of Two WiFi Positioning Systems Based on Autonomous Crowdsourcing of Handheld Devices for Indoor Navigation. IEEE Transactions on Mobile Computing, 2016, 15, 1982-1995.	3.9	152
93	An efficient method for evaluating the performance of integrated multiple pedestrian navigation systems. , 2015, , .		0
94	Collaborative WiFi Fingerprinting Using Sensor-Based Navigation on Smartphones. Sensors, 2015, 15, 17534-17557.	2.1	28
95	WiFi-Aided Magnetic Matching for Indoor Navigation with Consumer Portable Devices. Micromachines, 2015, 6, 747-764.	1.4	58
96	PDR/INS/WiFi Integration Based on Handheld Devices for Indoor Pedestrian Navigation. Micromachines, 2015, 6, 793-812.	1.4	98
97	A Novel Kalman Filter with State Constraint Approach for the Integration of Multiple Pedestrian Navigation Systems. Micromachines, 2015, 6, 926-952.	1.4	27
98	LiDAR Scan Matching Aided Inertial Navigation System in GNSS-Denied Environments. Sensors, 2015, 15, 16710-16728.	2.1	99
99	Design and Performance Evaluation of a Dual Antenna Joint Carrier Tracking Loop. Sensors, 2015, 15, 25399-25415.	2.1	0
100	Tightly Coupled Integration of Ionosphere-Constrained Precise Point Positioning and Inertial Navigation Systems. Sensors, 2015, 15, 5783-5802.	2.1	29
101	Modeling and Development of INS-Aided PLLs in a GNSS/INS Deeply-Coupled Hardware Prototype for Dynamic Applications. Sensors, 2015, 15, 733-759.	2.1	17
102	Autonomous Calibration of MEMS Gyros in Consumer Portable Devices. IEEE Sensors Journal, 2015, 15, 4062-4072.	2.4	76
103	Railway Track Irregularity Measuring by GNSS/INS Integration. Navigation, Journal of the Institute of Navigation, 2015, 62, 83-93.	1.7	59
104	The Impact of Vehicle Maneuvers on the Attitude Estimation of GNSSâ€†/â€†INS for Mobile Mapping. Journal of Applied Geodesy, 2015, 9, .	0.6	11
105	High-Precision Image Aided Inertial Navigation with Known Features: Observability Analysis and Performance Evaluation. Sensors, 2014, 14, 19371-19401.	2.1	8
106	Using Allan variance to analyze the error characteristics of GNSS positioning. GPS Solutions, 2014, 18, 231-242.	2.2	49
107	High-rate precise point positioning (PPP) to measure seismic wave motions: an experimental comparison of GPS PPP with inertial measurement units. Journal of Geodesy, 2013, 87, 361-372.	1.6	144
108	Fast Thermal Calibration of Low-Grade Inertial Sensors and Inertial Measurement Units. Sensors, 2013, 13, 12192-12217.	2.1	83

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109	On the Convergence of Ionospheric Constrained Precise Point Positioning (IC-PPP) Based on Undifferential Uncombined Raw GNSS Observations. Sensors, 2013, 13, 15708-15725.	2.1	62
110	Using Allan variance to evaluate the relative accuracy on different time scales of GNSS/INS systems. Measurement Science and Technology, 2013, 24, 085006.	1.4	25
111	RAPID AND ACCURATE INS ALIGNMENT FOR LAND APPLICATIONS. Survey Review, 2010, 42, 279-291.	0.7	8
112	Civilian Vehicle Navigation: Required Alignment of the Inertial Sensors for Acceptable Navigation Accuracies. IEEE Transactions on Vehicular Technology, 2008, 57, 3402-3412.	3.9	78
113	Analysis and Modeling of Inertial Sensors Using Allan Variance. IEEE Transactions on Instrumentation and Measurement, 2008, 57, 140-149.	2.4	622
114	Development of an intelligent and hybrid scheme for rapid INS alignment. Journal of the Chinese Institute of Engineers, Transactions of the Chinese Institute of Engineers,Series A/Chung-kuo Kung Ch'eng Hsuch K'an, 2007, 30, 759-763.	0.6	1
115	An Accurate Land-Vehicle MEMS IMU/GPS Navigation System Using 3D Auxiliary Velocity Updates. Navigation, Journal of the Institute of Navigation, 2007, 54, 177-188.	1.7	67
116	Land-Vehicle INS/GPS Accurate Positioning during GPS Signal Blockage Periods. Journal of Surveying Engineering, - ASCE, 2007, 133, 134-143.	1.0	19
117	An Efficient Method for Evaluating the Performance of MEMS IMUs. , 0, , .		4