Irma ChacÃ³n

List of Publications by Year
in descending order

137 papers	4,252 citations	136950 32 h-index	133252 59 g-index
137 all docs	137 docs citations	137 times ranked	2831 citing authors

#	ARTICLE	IF	CITATIONS
1	Short-term forecasting of passenger demand under on-demand ride services: A spatio-temporal deep learning approach. Transportation Research Part C: Emerging Technologies, 2017, 85, 591-608.	7.6	485
2	Coordinating Supply and Demand on an On-Demand Service Platform with Impatient Customers. Manufacturing and Service Operations Management, 2019, 21, 556-570.	3.7	348
3	Understanding ridesplitting behavior of on-demand ride services: An ensemble learning approach. Transportation Research Part C: Emerging Technologies, 2017, 76, 51-70.	7.6	187
4	Trajectory data-based traffic flow studies: A revisit. Transportation Research Part C: Emerging Technologies, 2020, 114, 225-240.	7.6	128
5	Short-term forecasting of high-speed rail demand: A hybrid approach combining ensemble empirical mode decomposition and gray support vector machine with real-world applications in China. Transportation Research Part C: Emerging Technologies, 2014, 44, 110-127.	7.6	122
6	A Markov Model for Headway/Spacing Distribution of Road Traffic. IEEE Transactions on Intelligent Transportation Systems, 2010, 11, 773-785.	8.0	117
7	A Balancing Act of Regulating On-Demand Ride Services. Management Science, 2020, 66, 2975-2992.	4.1	117
8	Vehicle headway modeling and its inferences in macroscopic/microscopic traffic flow theory: A survey. Transportation Research Part C: Emerging Technologies, 2017, 76, 170-188.	7.6	116
9	Short‐term traffic flow prediction with linear conditional Gaussian Bayesian network. Journal of Advanced Transportation, 2016, 50, 1111-1123.	1.7	109
10	Hexagon-Based Convolutional Neural Network for Supply-Demand Forecasting of Ride-Sourcing Services. IEEE Transactions on Intelligent Transportation Systems, 2019, 20, 4160-4173.	8.0	100
11	Surrogate‐Based Optimization of Expensive‐to‐Evaluate Objective for Optimal Highway Toll Charges in Transportation Network. Computer-Aided Civil and Infrastructure Engineering, 2014, 29, 359-381.	9.8	93
12	Predicting origin-destination ride-sourcing demand with a spatio-temporal encoder-decoder residual multi-graph convolutional network. Transportation Research Part C: Emerging Technologies, 2021, 122, 102858.	7.6	85
13	Automated vehicle-involved traffic flow studies: A survey of assumptions, models, speculations, and perspectives. Transportation Research Part C: Emerging Technologies, 2021, 127, 103101.	7.6	84
14	A global optimization algorithm for trajectory data based car-following model calibration. Transportation Research Part C: Emerging Technologies, 2016, 68, 311-332.	7.6	71
15	Dynamic optimization strategies for on-demand ride services platform: Surge pricing, commission rate, and incentives. Transportation Research Part B: Methodological, 2020, 138, 23-45.	5.9	69
16	Multimodel Ensemble for Freeway Traffic State Estimations. IEEE Transactions on Intelligent Transportation Systems, 2014, 15, 1323-1336.	8.0	68
17	A spatial econometric model for travel flow analysis and real-world applications with massive mobile phone data. Transportation Research Part C: Emerging Technologies, 2018, 86, 510-526.	7.6	63
18	Ridesplitting is shaping young people's travel behavior: Evidence from comparative survey via ride-sourcing platform. Transportation Research, Part D: Transport and Environment, 2019, 75, 57-71.	6.8	62

#	Article	IF	Citations
19	Modelling drivers' working and recharging schedules in a ride-sourcing market with electric vehicles and gasoline vehicles. Transportation Research, Part E: Logistics and Transportation Review, 2019, 125, 160-180.	7.4	60
20	Spatial-temporal inference of urban traffic emissions based on taxi trajectories and multi-source urban data. Transportation Research Part C: Emerging Technologies, 2019, 106, 145-165.	7.6	56
21	Time-of-day vehicle mileage fees for congestion mitigation and revenue generation: A simulation-based optimization method and its real-world application. Transportation Research Part C: Emerging Technologies, 2016, 63, 71-95.	7.6	52
22	Joint predictions of multi-modal ride-hailing demands: A deep multi-task multi-graph learning-based approach. Transportation Research Part C: Emerging Technologies, 2021, 127, 103063.	7.6	51
23	Freeway Travel-Time Estimation Based on Temporal–Spatial Queueing Model. IEEE Transactions on Intelligent Transportation Systems, 2013, 14, 1536-1541.	8.0	49
24	Exploring impacts of on-demand ridesplitting on mobility via real-world ridesourcing data and questionnaires. Transportation, 2021, 48, 1541-1561.	4.0	47
25	Emission Mitigation via Longitudinal Control of Intelligent Vehicles in a Congested Platoon. Computer-Aided Civil and Infrastructure Engineering, 2015, 30, 490-506.	9.8	43
26	Optimal Time-Varying Pricing for Toll Roads Under Multiple Objectives: A Simulation-Based Optimization Approach. Transportation Science, 2017, 51, 412-426.	4.4	42
27	A mean-field Markov decision process model for spatial-temporal subsidies in ride-sourcing markets. Transportation Research Part B: Methodological, 2021, 150, 540-565.	5.9	42
28	Modeling indoor-level non-pharmaceutical interventions during the COVID-19 pandemic: A pedestrian dynamics-based microscopic simulation approach. Transport Policy, 2021, 109, 12-23.	6.6	42
29	GraphSAGE-Based Traffic Speed Forecasting for Segment Network With Sparse Data. IEEE Transactions on Intelligent Transportation Systems, 2022, 23, 1755-1766.	8.0	38
30	Modeling and managing heterogeneous ride-sourcing platforms with government subsidies on electric vehicles. Transportation Research Part B: Methodological, 2020, 139, 447-472.	5.9	37
31	Multi-step-ahead traffic speed forecasting using multi-output gradient boosting regression tree. Journal of Intelligent Transportation Systems: Technology, Planning, and Operations, 2020, 24, 125-141.	4.2	36
32	Network-wide traffic speed forecasting: 3D convolutional neural network with ensemble empirical mode decomposition. Computer-Aided Civil and Infrastructure Engineering, 2020, 35, 1132-1147.	9.8	36
33	Urban network-wide traffic speed estimation with massive ride-sourcing GPS traces. Transportation Research Part C: Emerging Technologies, 2020, 112, 136-152.	7.6	34
34	Surrogate-Based Optimization for Solving a Mixed Integer Network Design Problem. Transportation Research Record, 2015, 2497, 124-136.	1.9	33
35	Dynamic Demand Forecasting and Ticket Assignment for High-Speed Rail Revenue Management in China. Transportation Research Record, 2015, 2475, 37-45.	1.9	33
36	The analysis of dynamic travel mode choice: a heterogeneous hidden Markov approach. Transportation, 2015, 42, 985-1002.	4.0	32

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37	Traffic state and emission estimation for urban expressways based on heterogeneous data. Transportation Research, Part D: Transport and Environment, 2017, 53, 440-453.	6.8	31
38	Trajectory analysis for on-demand services: A survey focusing on spatial-temporal demand and supply patterns. Transportation Research Part C: Emerging Technologies, 2019, 108, 74-99.	7.6	31
39	Agent-based en-route diversion: Dynamic behavioral responses and network performance represented by Macroscopic Fundamental Diagrams. Transportation Research Part C: Emerging Technologies, 2016, 64, 148-163.	7.6	30
40	Day-to-day evolution of departure time choice in stochastic capacity bottleneck models with bounded rationality and various information perceptions. Transportation Research, Part E: Logistics and Transportation Review, 2019, 131, 168-192.	7.4	30
41	How Does On-Demand Ridesplitting Influence Vehicle Use and Purchase Willingness? A Case Study in Hangzhou, China. IEEE Intelligent Transportation Systems Magazine, 2019, 11, 143-157.	3.8	30
42	Connected vehicle-based red-light running prediction for adaptive signalized intersections. Journal of Intelligent Transportation Systems: Technology, Planning, and Operations, 2018, 22, 229-243.	4.2	29
43	A mixed Bayesian network for two-dimensional decision modeling of departure time and mode choice. Transportation, 2018, 45, 1499-1522.	4.0	28
44	Multiâ€model ensemble for shortâ€term traffic flow prediction under normal and abnormal conditions. IET Intelligent Transport Systems, 2019, 13, 260-268.	3.0	28
45	Adaptive Rolling Smoothing With Heterogeneous Data for Traffic State Estimation and Prediction. IEEE Transactions on Intelligent Transportation Systems, 2019, 20, 1247-1258.	8.0	26
46	Asymmetric stochastic Tau Theory in car-following. Transportation Research Part F: Traffic Psychology and Behaviour, 2013, 18, 21-33.	3.7	25
47	Developing a 24-Hour Large-Scale Microscopic Traffic Simulation Model for the Before-and-After Study of a New Tolled Freeway in the Washington, DCâ€"Baltimore Region. Journal of Transportation Engineering, 2015, 141, .	0.9	25
48	Spatial-temporal pricing for ride-sourcing platform with reinforcement learning. Transportation Research Part C: Emerging Technologies, 2021, 130, 103272.	7.6	23
49	Exploring impacts of COVID-19 on city-wide taxi and ride-sourcing markets: Evidence from Ningbo, China. Transport Policy, 2022, 115, 220-238.	6.6	23
50	A Simulation-based Approach for Sustainable Transportation Systems Evaluation and Optimization: Theory, Systematic Framework and Applications. Procedia, Social and Behavioral Sciences, 2013, 96, 2274-2286.	0.5	22
51	PCA-based missing information imputation for real-time crash likelihood prediction under imbalanced data. Transportmetrica A: Transport Science, 2019, 15, 872-895.	2.0	22
52	Equilibrium analyses and operational designs of a coupled market with substitutive and complementary ride-sourcing services to public transits. Transportation Research, Part E: Logistics and Transportation Review, 2021, 148, 102236.	7.4	21
53	Phase Diagram Analysis Based on a Temporal-Spatial Queueing Model. IEEE Transactions on Intelligent Transportation Systems, 2012, 13, 1705-1716.	8.0	20
54	Bayesian network for red-light-running prediction at signalized intersections. Journal of Intelligent Transportation Systems: Technology, Planning, and Operations, 2019, 23, 120-132.	4.2	20

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55	Capturing the interaction between travel time reliability and route choice behavior based on the generalized Bayesian traffic model. Transportation Research Part B: Methodological, 2021, 143, 48-64.	5.9	20
56	Hybrid Approach Combining Modified Gravity Model and Deep Learning for Short-Term Forecasting of Metro Transit Passenger Flows. Transportation Research Record, 2021, 2675, 25-38.	1.9	20
57	A modified artificial bee colony algorithm for the dynamic ride-hailing sharing problem. Transportation Research, Part E: Logistics and Transportation Review, 2021, 150, 102124.	7.4	20
58	A generalized Bayesian traffic model. Transportation Research Part C: Emerging Technologies, 2019, 108, 182-206.	7.6	19
59	Characterising scattering features in flowâ€"density plots using a stochastic platoon model. Transportmetrica A: Transport Science, 2014, 10, 820-848.	2.0	18
60	Spatialâ€"Temporal Deep Tensor Neural Networks for Large-Scale Urban Network Speed Prediction. IEEE Transactions on Intelligent Transportation Systems, 2020, 21, 3718-3729.	8.0	18
61	Hybrid operations of human driving vehicles and automated vehicles with data-driven agent-based simulation. Transportation Research, Part D: Transport and Environment, 2020, 86, 102469.	6.8	18
62	Competition between the transportation network company and the government with subsidies to public transit riders. Transportation Research, Part E: Logistics and Transportation Review, 2021, 152, 102426.	7.4	18
63	Modeling and Managing Mixed On-Demand Ride Services of Human-Driven Vehicles and Autonomous Vehicles. Transportation Research Part B: Methodological, 2022, 157, 80-119.	5.9	18
64	A Traffic Breakdown Model Based on Queueing Theory. Networks and Spatial Economics, 2014, 14, 485-504.	1.6	16
65	Integrating probabilistic tensor factorization with Bayesian supervised learning for dynamic ridesharing pattern analysis. Transportation Research Part C: Emerging Technologies, 2021, 124, 102916.	7.6	16
66	A simulationâ€"optimization framework for a dynamic electric ride-hailing sharing problem with a novel charging strategy. Transportation Research, Part E: Logistics and Transportation Review, 2022, 159, 102615.	7.4	15
67	Location specific cell transmission model for freeway traffic. Tsinghua Science and Technology, 2010, 15, 475-480.	6.1	14
68	An extended generalized filter algorithm for urban expressway traffic time estimation based on heterogeneous data. Journal of Intelligent Transportation Systems: Technology, Planning, and Operations, 2016, 20, 474-484.	4.2	14
69	Exploring multi-homing behavior of ride-sourcing drivers via real-world multiple platforms data. Transportation Research Part F: Traffic Psychology and Behaviour, 2021, 80, 61-78.	3.7	14
70	Understanding network travel time reliability with on-demand ride service data. Frontiers of Engineering Management, 2017, 4, 388.	6.1	14
71	Simulation-based Optimization of Mixed Road Pricing Policies in a large Real-world Network. Transportation Research Procedia, 2015, 8, 215-226.	1.5	13
72	A Novel Trip Coverage Index for Transit Accessibility Assessment Using Mobile Phone Data. Journal of Advanced Transportation, 2017, 2017, 1-14.	1.7	13

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73	Simulation-based pricing optimization for improving network-wide travel time reliability. Transportmetrica A: Transport Science, 2018, 14, 155-176.	2.0	13
74	Social Welfare Maximization of Multimodal Transportation. Transportation Research Record, 2014, 2451, 36-49.	1.9	12
75	Stochastic Evolutions of Dynamic Traffic Flow. , 2015, , .		12
76	Integrating mesoscopic dynamic traffic assignment with agent-based travel behavior models for cumulative land development impact analysis. Transportation Research Part C: Emerging Technologies, 2018, 93, 446-462.	7.6	12
77	Quantifying the impact of COVID-19 on e-bike safety in China via multi-output and clustering-based regression models. PLoS ONE, 2021, 16, e0256610.	2.5	12
78	A comprehensive review of shared mobility for sustainable transportation systems. International Journal of Sustainable Transportation, 2023, 17, 527-551.	4.1	12
79	Network-scale traffic prediction via knowledge transfer and regional MFD analysis. Transportation Research Part C: Emerging Technologies, 2022, 141, 103719.	7.6	12
80	PERTURBATION AND STABILITY ANALYSIS OF THE MULTI-ANTICIPATIVE INTELLIGENT DRIVER MODEL. International Journal of Modern Physics C, 2010, 21, 647-668.	1.7	11
81	Coordinating Supply and Demand on an On-Demand Platform: Price, Wage, and Payout Ratio. SSRN Electronic Journal, 0, , .	0.4	11
82	Modeling network equilibrium of competitive ride-sourcing market with heterogeneous transportation network companies. Transportation Research Part C: Emerging Technologies, 2021, 130, 103277.	7.6	11
83	Short-term forecasting of emerging on-demand ride services. , 2017, , .		10
84	Efficient dispatching for on-demand ride services: Systematic optimization via Monte-Carlo tree search. Transportation Research Part C: Emerging Technologies, 2021, 127, 103156.	7.6	10
85	On the Intrinsic Concordance between the Wide Scattering Feature of Synchronized Flow and the Empirical Spacing Distributions. Chinese Physics Letters, 2010, 27, 074501.	3.3	9
86	Dynamic Transportation Planning and Operations: Concept, Framework and Applications in China. Procedia, Social and Behavioral Sciences, 2013, 96, 2332-2343.	0.5	9
87	A Bayesian Stochastic Kriging Optimization Model Dealing with Heteroscedastic Simulation Noise for Freeway Traffic Management. Transportation Science, 2019, 53, 545-565.	4.4	9
88	Spatial visitation prediction of on-demand ride services using the scaling law. Physica A: Statistical Mechanics and Its Applications, 2018, 508, 84-94.	2.6	8
89	Agent-Based Microsimulation Approach for Design and Evaluation of Flexible Work Schedules. Transportation Research Record, 2015, 2537, 167-176.	1.9	7
90	Investigations of interactions between bus rapid transit and general traffic flows. Journal of Advanced Transportation, 2015, 49, 326-340.	1.7	7

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91	Optimal travel information provision strategies: an agent-based approach under uncertainty. Transportmetrica B, 2018, 6, 129-150.	2.3	7
92	Fitting Spatial-Temporal Data via a Physics Regularized Multi-Output Grid Gaussian Process: Case Studies of a Bike-Sharing System. IEEE Transactions on Intelligent Transportation Systems, 2022, 23, 21090-21101.	8.0	7
93	Probabilistic Data Fusion for Short-Term Traffic Prediction With Semiparametric Density Ratio Model. IEEE Transactions on Intelligent Transportation Systems, 2019, 20, 2459-2469.	8.0	6
94	The conditional probability of travel speed and its application to short-term prediction. Transportmetrica B, 2019, 7, 684-706.	2.3	6
95	Simulating on-demand ride services in a Manhattan-like urban network considering traffic dynamics. Physica A: Statistical Mechanics and Its Applications, 2020, 545, 123621.	2.6	6
96	Stabilization of traffic flow based on multi-anticipative intelligent driver model. , 2009, , .		5
97	A TWO-DIMENSIONAL CA TRAFFIC MODEL WITH DYNAMIC ROUTE CHOICES BETWEEN RESIDENCE AND WORKPLACE. International Journal of Modern Physics C, 2010, 21, 221-237.	1.7	5
98	Multidimensional Travel Decision-Making: Descriptive Behavioural Theory and Agent-Based Models. , 2015, , 213-231.		5
99	A surrogate-based optimization algorithm for network design problems. Frontiers of Information Technology and Electronic Engineering, 2017, 18, 1693-1704.	2.6	5
100	Measuring the Passenger Car Equivalent of Small Cars and SUVs on Rainy and Sunny Days. Transportation Research Record, 2018, 2672, 110-119.	1.9	5
101	Nonnegative tensor decomposition for urban mobility analysis and applications with mobile phone data. Transportmetrica A: Transport Science, 2022, 18, 29-53.	2.0	5
102	Forecasting the transmission trends of respiratory infectious diseases with an exposure-risk-based model at the microscopic level. Environmental Research, 2022, 212, 113428.	7.5	5
103	Calibrating supply parameters of large€scale DTA models with surrogate€based optimisation. IET Intelligent Transport Systems, 2018, 12, 642-650.	3.0	4
104	Decentralized Cooperation Strategies in Two-Dimensional Traffic of Cellular Automata. Communications in Theoretical Physics, 2012, 58, 883-890.	2.5	3
105	Evaluation of Accident-Induced Indirect Costs for Measuring Penalties on Violations of Laws. Transportation Research Record, 2012, 2317, 111-120.	1.9	3
106	Competition between High-Speed Rail and Airline Based on Game Theory. Mathematical Problems in Engineering, 2017, 2017, 1-9.	1.1	3
107	Service Operations for Mixed Autonomous Paradigm: Lane Design and Subsidy. Production and Operations Management, 0, , .	3.8	3
108	A Bi-Level Optimization Model for Ride-Sourcing Platform's Spatial Pricing Strategy. Journal of Advanced Transportation, 2022, 2022, 1-22.	1.7	3

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109	Estimation of Vehicle Usage Rate Based on Capture-Recapture Model with License Plate Recognition Data. , 2008, , .		2
110	Evolutionary Algorithm of Port Based Location Routing Problem. , 2009, , .		2
111	Temporal-Spatial Analysis of Traffic Congestion Based on Modified CTM. Mathematical Problems in Engineering, 2015, 2015, 1-11.	1.1	2
112	Integrated Agent-Based Travel Behavior and Dynamic Traffic Microsimulation for Ramp-Metering Analysis. Transportation Research Record, 2017, 2665, 11-20.	1.9	2
113	Short-Term Forecasting of Traffic Flow and Speed: A Deep Learning Approach. , 2018, , .		2
114	Analyzing the impact of a planned transit-oriented development on mode share and traffic conditions. Transportation Planning and Technology, 2018, 41, 816-829.	2.0	2
115	Analyzing Simulation-Based Active Traffic Management Impact on a Large-Scale Regional Network. Transportation Research Record, 2019, 2673, 638-647.	1.9	2
116	On Network Effects in the Ride-Sourcing Market with Heterogeneous Users. , 2020, , .		2
117	City-Level China Traffic Safety Analysis via Multi-Output and Clustering-Based Regression Models. Sustainability, 2020, 12, 3098.	3.2	2
118	A Domain Adaptation Framework for Short-term Traffic Prediction. , 2021, , .		2
119	Evaluation and Optimization of Public Transport Subsidies for Alternative Energy. , 2009, , .		1
120	Equilibrium analysis and comparison for general CTMs and LCTMs. , 2010, , .		1
121	JAMMING TRANSITION OF POINT-TO-POINT TRAFFIC THROUGH CO-OPERATIVE MECHANISMS. International Journal of Modern Physics C, 2012, 23, 1250077.	1.7	1
122	Comparison of Highway Traffic Breakdown Features between U.S. and China Using Discrete Wavelet Transform: An Empirical Study. , 2012, , .		1
123	Gradient Boosting Regression Tree for Traffic Flow Prediction Considering Temporal and Spatial Correlations. , 2018, , .		1
124	Traffic Flow Prediction Based on Probe Vehicle GPS Traces Considering Temporal and Spatial Correlations. , 2018, , .		1
125	Measuring and enhancing the transferability of hidden Markov models for dynamic travel behavioral analysis. Transportation, 2020, 47, 585-605.	4.0	1
126	Understanding City-Wide Ride-Sourcing Travel Flow: A Geographically Weighted Regression Approach. Journal of Advanced Transportation, 2021, 2021, 1-15.	1.7	1

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127	Short-Term Speed Forecasting of Large-Scale Urban Road Network Based on Transformer. , 2021, , .		1
128	On the primal and dual formulations of traffic assignment problems with perception stochasticity and demand elasticity. Transportation Letters, 2023, 15, 537-552.	3.1	1
129	Spatio-Temporal Evolution of Traffic Congestions on Urban Freeways. , 2009, , .		0
130	Cellular signaling data driven simulation-based dynamic traffic assignment and its applications to a real-world road network. , 2016, , .		0
131	Dynamic traffic assignment integration with real-time ramp metering for large-scale network management. , 2017, , .		0
132	Random Forests for Freeway Short-Term Traffic Speed Prediction. , 2018, , .		0
133	Taxi Downsizing: A New Approach to Efficiency and Sustainability in the Taxi Industry. Sustainability, 2019, 11, 4944.	3.2	0
134	Simulation-Based Optimization for Network Modeling With Heterogeneous Data. , 2019, , 201-225.		0
135	A Grouping Approach to Ridesplitting Optimization. , 2020, , .		0
136	Modeling Morning Commute Problem with Real-Time Ridesharing Services. , 2021, , .		0
137	Analyzing Ride-Sourcing Market Equilibrium and Its Transitions with Heterogeneous Users. Journal of Advanced Transportation, 2022, 2022, 1-24.	1.7	0