

# IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS

A PUBLICATION OF THE IEEE INTELLIGENT TRANSPORTATION SYSTEMS SOCIETY

SEPTEMBER 2016

VOLUME 17

NUMBER 9

ITISFG

(ISSN 1524-9050)

---

## EDITORIAL

Scanning the Issue . . . . .	2381
------------------------------	------

---

## REGULAR PAPERS

BDD-Based Synthesis of Fail-Safe Supervisory Controllers for Safety-Critical Discrete Event Systems . . . . .	<i>T. Xu, H. Wang, T. Yuan, and M. Zhou</i>	2385
Modeling of Crowd Evacuation With Assailants via a Fuzzy Logic Approach . . . . .	<i>M. Zhou, H. Dong, D. Wen, X. Yao, and X. Sun</i>	2395
Order-Preserving Condensation of Moving Objects in Surveillance Videos . . . . .	<i>H. T. Nguyen, S.-W. Jung, and C. S. Won</i>	2408
Distributed Adaptive Integrated-Sliding-Mode Controller Synthesis for String Stability of Vehicle Platoons . . . . .	<i>X. Guo, J. Wang, F. Liao, and R. S. H. Teo</i>	2419
A New Hardware-in-the-Loop Traffic Signal Simulation Framework to Bridge Traffic Signal Research and Practice . . . . .	<i>P. Li and P. B. Mirchandani</i>	2430
Local Volumetric Hybrid-Map-Based Simultaneous Localization and Mapping With Moving Object Tracking . . . . .	<i>J. Choi and M. Maurer</i>	2440
Exploiting Large Image Sets for Road Scene Parsing . . . . .	<i>J. M. Álvarez, M. Salzmann, and N. Barnes</i>	2456
Inferring Passenger Travel Demand to Improve Urban Mobility in Developing Countries Using Cell Phone Data: A Case Study of Senegal . . . . .	<i>M. G. Demissie, S. Phithakkitnukoon, T. Sukhvilul, F. Antunes, R. Gomes, and C. Bento</i>	2466
A Graph-Based Approach to Measuring the Efficiency of an Urban Taxi Service System . . . . .	<i>X. Zhan, X. Qian, and S. V. Ukkusuri</i>	2479
Conflict Management Considering a Smooth Transition of Aircraft Into Adjacent Airspace . . . . .	<i>Y. Hong, B. Choi, K. Lee, and Y. Kim</i>	2490
Cross Array and Rank-1 MUSIC Algorithm for Acoustic Highway Lane Detection . . . . .	<i>Y. Na, Y. Guo, Q. Fu, and Y. Yan</i>	2502
High Confidence Intervals Applied to Aircraft Altitude Prediction . . . . .	<i>M. Ghasemi Hamed, R. Alligier, and D. Gianazza</i>	2515
A Stochastic Emergency Response Location Model Considering Secondary Incidents on Freeways . . . . .	<i>H. Park, A. Shafahi, and A. Haghani</i>	2528
Efficient Driving on Multilane Roads Under a Connected Vehicle Environment . . . . .	<i>M. A. S. Kamal, S. Taguchi, and T. Yoshimura</i>	2541
CLRIC: Collecting Lane-Based Road Information Via Crowdsourcing . . . . .	<i>L. Tang, X. Yang, Z. Dong, and Q. Li</i>	2552
Inevitable Collision States for Motorcycle-to-Car Collision Scenarios . . . . .	<i>G. Savino, F. Giovannini, M. Fitzharris, and M. Pierini</i>	2563
Dynamic Snow Plow Fleet Management Under Uncertain Demand and Service Disruption . . . . .	<i>L. Hajibabai and Y. Ouyang</i>	2574

---

(Contents Continued on Back Cover)

---

Development of a Kinematic-Based Forward Collision Warning Algorithm Using an Advanced Driving Simulator . . . .....	<i>X. Wang, M. Chen, M. Zhu, and P. Tremont</i>	2583
---	---	------

---

SHORT PAPERS

A Note on “Estimating Dynamic Queue Distribution in a Signalized Network Through a Probability Generating Model” .....	<i>X. Gu and Y. Wang</i>	2592
Unsupervised Tracking With the Doubly Stochastic Dirichlet Process Mixture Model. .... .....	<i>X. Sun, N. H. C. Yung, and E. Y. Lam</i>	2594

---

SPECIAL ISSUE REGULAR PAPERS

Efficient Real-Time Train Operation Algorithms With Uncertain Passenger Demands. .... .....	<i>J. Yin, D. Chen, L. Yang, T. Tang, and B. Ran</i>	2600
Congestion Avoidance Routing Based on Large-Scale Social Signals. . . . .	<i>K. He, Z. Xu, P. Wang, L. Deng, and L. Tu</i>	2613
Mobility Viewer: An Eulerian Approach for Studying Urban Crowd Flow. .... .....	<i>Y. Ma, T. Lin, Z. Cao, C. Li, F. Wang, and W. Chen</i>	2627
iParker—A New Smart Car-Parking System Based on Dynamic Resource Allocation and Pricing . . . . . .....	<i>A. O. Kotb, Y.-C. Shen, X. Zhu, and Y. Huang</i>	2637
A Service-Based Approach to Traffic Sensor Data Integration and Analysis to Support Community-Wide Green Commute in China. ....	<i>Y. Han, G. Wang, J. Yu, C. Liu, Z. Zhang, and M. Zhu</i>	2648
Evaluating Location Privacy in Vehicular Communications and Applications. .... .....	<i>G. P. Corser, H. Fu, and A. Banihani</i>	2658
Linguistic Dynamic Analysis of Traffic Flow Based on Social Media—A Case Study. . . . . .....	<i>H. Mo, X. Hao, H. Zheng, Z. Liu, and D. Wen</i>	2668

---