

2012 IEEE International Conference on Vehicular Electronics and Safety

(ICVES 2012)

**Istanbul, Turkey
24 – 27 July 2012**



**IEEE Catalog Number: CFP12ICV-PRT
ISBN: 978-1-4673-0992-9**

TABLE OF CONTENTS

City GPS using Stereo Vision	1
<i>H. Lategahn, C. Stiller</i>	
Vehicle Geo-Localization Using IMM-UKF Multi-Sensor Data Fusion Based On Virtual 3D City Model As A Priori Information	7
<i>M. Dawood, M. Najjar, C. Cappelle, J. Peng, M. Khalil, D. Pomorski</i>	
Plane-Feature Based 3D Outdoor SLAM with Gaussian Filters	13
<i>C. Ulas, H. Temeltas</i>	
Evaluation Method and Results for the Accuracy of an Automotive Occupancy Grid	19
<i>R. Grewe, M. Komar, A. Hohm, S. Lueke, H. Winner</i>	
Optimized Control of an Electric Vehicle With Functional Actuator Redundancy	25
<i>P. Bergmiller, F. Schudt, M. Maurer</i>	
Estimation of Slip Ratio and Road Characteristics by Adding Perturbation to the Input Torque	31
<i>M. Cecotti, J. Larminie, B. Azzopardi</i>	
Accurate Wheel Speed Measurement for Sensorless ABS in Electric Vehicle	37
<i>A. Dadashnialehi, A. Bab-Hadiashar, Z. Cao, A. Kapoor</i>	
Proposal of Regenerative Braking Algorithm to Maximize Energy Transfer and to Enhance Yaw Stability	43
<i>H. Dogruguvan, T. Acarman</i>	
Trust Aware Particle Filters for Autonomous Vehicles	50
<i>Y. Basciftci, F. Ozguner</i>	
Freeze Detection in 2D Navigation Video Sequences by Matching of Extracted Line Segments	55
<i>G. Yammine, E. Wige, F. Simmet, D. Niederkorn, A. Kaup</i>	
Analysis of Ethernet AVB for Automotive Networks using Network Calculus	61
<i>R. Queck</i>	
CAN Signal Injection	68
<i>M. Loukadaki, T. Edwards</i>	
Real-Time Experimental Validation of Nonlinear Observer for Vehicle Dynamics Parameters Estimation: A Laboratory Vehicle Description	72
<i>B. Wang, Q. Cheng, A. Victorino, A. Charara</i>	
The Effects of the Cornering Stiffness Variation on Articulated Heavy Vehicle Stability	78
<i>S. Tabatabaei, A. Zahedi, A. Khodayari</i>	
Robust Control of Electric Power Steering System using PI-type Dynamic Inversion Method	84
<i>B. Seo, I. Yang, D. Lee</i>	
Model Predictive Control System Design for Car-Following Behavior in Real Traffic Flow	87
<i>A. Khodayari, A. Ghaffari, M. Nouri, S. Salehinia, F. Alimardani</i>	
Urban VANETs and Hidden Terminals: Evaluation through a Realistic Urban Grid Propagation Model	93
<i>H. Cozzetti, C. Campolo, R. Scopigno, A. Molinaro</i>	
A Study on UWB Radar Assisted by Inter-Vehicle Communication for Safety Applications	99
<i>H. Takahara, K. Ohno, M. Itami</i>	
Probability of Multi-hop Message Dissemination in Sparse Linear Vehicular Ad Hoc Networks	105
<i>S. Keykhaie, M. Dehghan, S. Yousefi</i>	
Intelligent Driving Diagnosis System Applied to Drivers Modeling and High Risk Areas Identification. An Approach Toward a Real Environment Implementation	111
<i>C. Quintero-M, J. Lopez, A. Pinilla</i>	
Influence of In-vehicle Music on Driving: Experimental Results with a Driving Simulator	117
<i>K. Mizoguchi, S. Tsugawa</i>	
Effect on Hasty State for Driver's Visual Perception	122
<i>M. Miyaji</i>	
Preliminary Experiments about Following Distance for Obtaining Benefit under Some Conditions	128
<i>N. Hashimoto, S. Kato, Y. Saito, S. Tsugawa</i>	
Model Based Controller Synthesis using Reachability Analysis that Guarantees the Safety of Autonomous Vehicles in a Convoy	134
<i>J. Park, U. Ozguner</i>	
Harmonized Traffic Stream in Urban Environment Based on Adaptive Stop&Go Cruise Control and its Impact on Traffic Flow	140
<i>A. Kostikj, M. Kjosevski, L. Kocarev</i>	

Improvement of Warning Lag Time in Forward Collision Warning Systems based on Multifunctional Warnings	146
<i>P. Thammakaroon, P. Tangamchit</i>	
Situation Analysis for Driver Assistance Systems at Urban Intersections	151
<i>S. Herrmann, F. Schroven</i>	
Development On Indicating System Of Information Of Deceleration Intention To Following Vehicle - Suggestion And Fundamental Experiment -	157
<i>Y. Saito, N. Hashimoto, S. Tsugawa, S. Kato</i>	
Impact of Driving Context on Stochastic Driver-Behavior Model: Quantitative Analysis of Car Following Task	163
<i>P. Angkititrakul, C. Miyajima, K. Takeda</i>	
AGV Decision Making Subsystem Based on Modified Dempster-Shafer Evidence Theory and Fuzzy Logic	169
<i>Y. Liu, W. Huang, T. Sun, F. Zhu</i>	
Point Stabilization Of Two-Wheeled Vehicle Based On Machine Learning	175
<i>D. Toishi, E. Konaka</i>	
Research on Control Strategy of Automatic Clutch During Vehicle Launching	181
<i>Y. Hu, W. Shen, J. Xi, H. Chen</i>	
Research on Fault Detection and Diagnosis strategy Based on AMT System Behavior	186
<i>J. Peng, H. Liu, Y. Hu, W. Shen</i>	
On Control Strategy of Automatic Transmission Starting Process	191
<i>E. Wang, G. Tao, H. Chen</i>	
Modeling Potential Dangers in Car Video for Collision Alarming	195
<i>M. Kilicarslan, J. Zheng</i>	
A Lane Departure Warning System with FPGA Modular Design	201
<i>P. Hsiao, J. Hong, S. Huang</i>	
Concerning the Applicability of Computer Graphics for the Evaluation of Image Processing Algorithms	205
<i>M. Nentwig, M. Miegler, M. Stammerger</i>	
Probabilistic Hierarchical Detection, Representation and Scene Interpretation of Lanes and Roads	211
<i>T. Gumpp, J. Oberlander, J. Zollner</i>	
Analytical Modeling of Vehicle-to-Vehicle Communication using Spread of Infection Models	217
<i>T. Indrakanti, K. Ozbay, S. Mudigonda</i>	
A Method to Withstand High Signal Attenuation for Infrared Electronic-Toll-Collection Systems— Equivalent Strength of the Received Signal in the Communication Area	223
<i>W. Shieh, H. Chen, T. Wang</i>	
TPMS Switching Beamformer Based on Duplex Wireless Communications for Interference Suppression	228
<i>S. Hwang, C. Park, S. Kim, G. Kwon, J. Pyun, S. Shin</i>	
Enhancing Safety in Vehicles with Implement or Trailer using an Autonomous Wireless Sensor Network System	234
<i>D. Dondi, A. Bertacchini, S. Scorcioni, L. Larcher, P. Pavan</i>	
Evaluation of Robust Pose Estimation Methods within Automotive Environments	241
<i>D. Slieter, M. Gebhard, P. Levi, H. Porsche</i>	
The Effect of Time-of-Flight Camera Integration Time on Vehicle Driver Head Pose Tracking Accuracy	247
<i>N. Ziraknejad, P. Lawrence, D. Romilly</i>	
An Eye State Identification Method Based on the Embedded Hidden Markov Model	255
<i>H. Qin, J. Liu, T. Hong</i>	
M-SIFT: A New Method for Vehicle Logo Recognition	261
<i>A. Psyllos, C. Anagnostopoulos, E. Kayafas</i>	
Multi-vehicle Cooperative Localization Using Indirect Vehicle-to-Vehicle Relative Pose Estimation	267
<i>H. Li, F. Nashashibi</i>	
An Accurate Vehicle Positioning Algorithm based on Vehicle-to-Vehicle (V2V) Communications	273
<i>A. Bhawiyuga, H. Nguyen, H. Jeong</i>	
Making Way for Emergency Vehicles at Oversaturated Signals under Vehicle-to-Vehicle Communications	279
<i>M. Cetin, C. Jordan</i>	
A GPS/Wi-Fi Integrated System for Positioning in Cooperative Vehicle and Infrastructure System	285
<i>H. Li, X. Chen, L. Huang, D. Yao</i>	
A Study on Speed Control of Safe Merging Using Game Theory	290
<i>X. Li, J. Hu, Y. Zhang</i>	

KGIC-ITS, A New System In Intelligent Transport System With Corporation Knowledge Grid & Cloud Technology	296
<i>B. Alipour, L. Khanli, F. Mahan</i>	
Application of S-Curve Methodology for Forecasting of V2X Communications and Autonomous Vehicle Research	302
<i>O. Alankus</i>	
Advanced Driver Assistance System For Fully Electric Vehicles – Functionalities & Use Cases	306
<i>K. Demestichas, E. Adampoulou, M. Masikos, R. Gimenez, B. Onur</i>	
Model Adaptive Driver Assistance System To Increase Fuel Savings	312
<i>T. Guan, C. Frey</i>	
Route Recommendation Method for Car Navigation System based on Estimation of Driver’s Intent	318
<i>S. Nakajima, D. Kitayama, Y. Sushita, K. Sumiya, N. Chandrasiri, K. Nawa</i>	
A Multicriteria Route Planning Approach Considering Driver Preferences	324
<i>S. Bozkurt, A. Yazici, K. Keskin</i>	
Artificial Neural Network for Predictions of Vehicle Drivable Range and Period	329
<i>Y. Chen, Chih-Hsien-Huang, Y. Kuo, S. Wang</i>	
An Efficient Maintenance and Spare Parts Inventory Management Software for ITS Equipment	334
<i>K. Ozbay, E. Ozguven, S. Demiroglu</i>	
Linear Parameter Varying Control of Permanent Magnet Synchronous Motor via Parameter-Dependent Lyapunov Function for Electrical Vehicles	340
<i>Y. Altun, K. Gulez</i>	
Review of Integrated Charging Methods for Plug-In Electric and Hybrid Vehicles	346
<i>M. Yilmaz, P. Krein</i>	
Diagnosing Overcharge Behavior in Operation of Li-ion Polymer Batteries	352
<i>T. Kaypmaz, R. Tuncay</i>	
FIEEV: A Co-Simulation Framework For Fault Injection In Electrical Vehicles	357
<i>A. Silveira, R. Araujo, R. Castro</i>	
SACAT: An Instrumented Vehicle for Driver Assistance and Safety	363
<i>N. Aliane, J. Fernandez, S. Bemposta, M. Mata, R. Diez</i>	
A Study on Autonomous Vehicle Development Process at Okan University	369
<i>T. Akgun, Z. Koc, S. Guner, B. Ozturk, B. Ozkan, O. Ustun, N. Tuncay, U. Ozguner</i>	
Developing And Comparison Of The Automated Driving Systems For Two Engine Vehicles And An Electric Vehicle	375
<i>W. Song, G. Xiong, M. Quan, X. Wang, J. Gong, H. Chen</i>	
A New Fuzzy Speed Planning Method For Safe Navigation	381
<i>V. Sezer, Z. Ercan, H. Heceoglu, S. Bogosyan, M. Gokasan</i>	
MANFIS-Based Overtaking Maneuver Modeling and Prediction of a Driver-Vehicle-Unit in Real Traffic Flow	387
<i>A. Ghaffari, A. Khodayari, F. Alimardani, H. Sadati</i>	
Emergency Collision Avoidance Maneuver based on Nonlinear Model Predictive Control	393
<i>C. Choi, Y. Kang, S. Lee</i>	
Neural-Network-Based Modeling and Prediction of the Future State of a Stop&Go Behavior in Urban Areas	399
<i>A. Ghaffari, A. Khodayari, A. Panahi, F. Alimardani</i>	
Image Feature Based Video Object Description and Tracking	405
<i>R. Yildiz, T. Acarman</i>	
Vehicle Detection Methods From An Unmanned Aerial Vehicle Platform	411
<i>Y. Yang, F. Liu, P. Wang, P. Luo, X. Liu</i>	
New Electronic Cane For Visually Impaired People For Obstacle Detection And Recognition	416
<i>S. Ammar Bouhamed, J. Frikha Eleuch, I. Khanfir Kallel, D. Sellami Masmoudi</i>	
Multi Channel MAC Protocols for Broadcast Transmissions in Vehicular Networks	421
<i>J. Alapati, S. Merchant, U. Desai</i>	
Gain Measurement and Uncertainty Assessment of A GPS Receiver’s Antenna At 1575.42MHz	427
<i>L. Zhang, D. Wang</i>	
Relay of Multi-hop Safety Message Based on Beaconing in VANET	432
<i>Y. Peksen, T. Acarman</i>	
Accurate Wireless Indoor Position Estimation by Using Hybrid TDOA/RSS Algorithm	437
<i>F. Ghannouchi, D. Wang, S. Tiwari</i>	
ADES: Automatic Driver Evaluation System	442
<i>K. Kaplan, C. Kurtul, H. Akin</i>	
Real-Time Traffic Sign Detection and Classification Method for Intelligent Vehicles	448
<i>K. Kaplan, C. Kurtul, H. Akin</i>	

Development of a Rule Based Upper Level Control Algorithm for a Co-operative Vehicle in Automated Highway System	454
<i>M. Turan, A. Hartavi</i>	
Driving Style Recognition Using Fuzzy Logic	460
<i>A. Aljaafreh, N. Alshabatat, M. Al-Din</i>	
Author Index	