

6th Biennial Workshop on Digital Signal Processing for In-Vehicle Systems

(DSP 2013)

**Seoul, South Korea
29 September - 2 October 2013**

ISBN: 978-1-63266-647-5

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2013) by ISPL Lab, School of Electrical Engineering
All rights reserved.

Printed by Curran Associates, Inc. (2014)

For permission requests, please contact ISPL Lab, School of Electrical Engineering
at the address below.

ISPL Lab, School of Electrical Engineering
Korea University
Anam-dong, Sungbuk-gu
Seoul, Korea 136-713

Phone: 82 10 9001 3239

Fax: 82 3290 2450

hsko@korea.ac.kr

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

Using Real Road Driving Data To Calibrate A Model Of Front-End Collision Risk	1
<i>Robert Baran, Changwon Jeon, Hanseok Ko</i>	
Speaker Activity Detection for Distributed Microphone Systems in Cars	9
<i>Timo Matheja, Markus Buck, Tim Fingscheidt</i>	
ADVISE: Autonomous Driving Vehicle for Individuality in a Stream Environment	17
<i>Akihiro Yamaguchi, Kenya Sato, Naoyuki Shiba, Shinya Honda, Hiroaki Takada</i>	
Speech Enhancement Employing Cepstral Feature Reconstruction for Robust In-Vehicle Speech Recognition	24
<i>Wooil Kim, Dong-Keun Jeon</i>	
Driver Adaptive Prediction for Pedestrian Detectability using In-Vehicle Camera Image	26
<i>Ryunosuke Tanishige, Daisuke Deguchi, Keisuke Doman, Yoshito Mekada, Ichiro Ide, Hiroshi Murase, Naoki Nitanda</i>	
Rain/Snow Removal via Low-rank and Sparse Optimization	31
<i>Rockhun Do, Tae-Hyun Oh, In So Kweon</i>	
An Audio-Visual In-Car Corpus “CENSREC-2-AV” for Robust Bimodal Speech Recognition	37
<i>Takuya Kawasaki, Naoya Ukai, Takumi Seko, Satoshi Tamura, Satoru Hayamizu, Chiyomi Miyajima, Norihide Kitaoka, Kazuya Takeda</i>	
Signal Processing for Microphone Arrays on Seat Belts	41
<i>Vasudev Kandade Rajan, Sebastian Rohde, Gerhard Schmidt, Jochen Withopf</i>	
Speech Enhancement in a Car Using Spatial and Spectral Models for Speaker and Noise	49
<i>Tomohiro Hakatani, Marc Delcroix, Masakiyo Fujimoto</i>	
Driving Distance Based Analysis of Driving Maneuvers	53
<i>Amardeep Sathyanarayana, Nitish Krishnamurthy, John H. L. Hansen</i>	
Driver Mirror-Checking Action Detection Using Multi-Modal Signals	59
<i>Nanxiang Li, Carlos Busso</i>	
Rear-end Collision Prevention Using Mobile Devices	67
<i>Nanxiang Li, Amardeep Sathyanarayana, Carlos Busso, John H. L. Hansen</i>	
Adaptation Techniques for Stochastic Driver-Behavior Modeling	75
<i>Pongtep Angkititrakul, Seong-Jun Hahm, Chiyomi Miyajima, Kazuya Takeda, John H. L. Hansen</i>	
Analysis of In-Vehicle Speech Activity towards Driver Safety Assessment	79
<i>Navid Shokouhi, Seyed Omid Sadjadi, Amardeep Sathyanarayana, John H. L. Hansen</i>	
New Trends in Car-Related Speech and Audio Quality Evaluations	87
<i>H. W. Gierlich, F. Kettler, M. Lepage, U. Musch, J. Reimes</i>	
Driver Visual Distraction during Text Reading on a Front-Mounted Transparent Display	90
<i>Daeseok Lee, Jeongran Lee, C. Randy Giles</i>	
Probabilistic Driver Modeling to Characterize Human Behavior for Semiautonomous Framework	98
<i>Katherine Driggs Campbell, Victor Shia, Ram Vasudevan, Francesco Borrelli, Ruzena Bajcsy</i>	
Author Index	