VEHICULAR 2023

The Twelfth International Conference on Advances in Vehicular Systems, Technologies and Applications

March 13th - 17th, 2023

Barcelona, Spain

VEHICULAR 2023 Editors

Reiner Kriesten, Karlsruhe University of Applied Sciences, Germany

Panos Nasiopoulos, University of British Columbia, Canada

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© (2023) by International Academy, Research, and Industry Association (IARIA)
Please refer to the Copyright Information page.

Printed with permission by Curran Associates, Inc. (2023)

International Academy, Research, and Industry Association (IARIA)
412 Derby Way
Wilmington, DE 19810

Phone: (408) 893-6407
Fax: (408) 527-6351

petre@iaria.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

Table of Contents

Intentional Binding in Direct and Indirect Manipulation for Pointing Task 1
Kazuhisa Miwa, Mizuki Hirata, Hojun Choi, and Tomomi Shimizu

A Neural Network-Based Estimation of Tire Self-Aligning Torque 5
Younesse El Mrhasli, Bruno Monsuez, and Xavier Mouton

Towards Cross-Cultural Intelligent Vehicles: A Review 12
Imane Taourarti, Arunkumar Ramaswamy, Javier Ibanez-guzman, Bruno Monsuez, and Adriana Tapus

Federated Monocular 3D Object Detection for Autonomous Driving 20
Fangyuan Chi, Yixiao Wang, Panos Nasiopoulos, Victor C.M. Leung, and Mahsa T. Pourazad

Simulation Environment for Validation of Automated Lane-Keeping System 24
Jiri Vlasak, Michal Sojka, and Zdene?k Hanza?lek

Baseline Selection for Integrated Gradients in Predictive Maintenance of Volvo Trucks' Turbocharger 29
Nellie Karlsson, My Bengtsson, Mahmoud Rahat, and Peyman Sheikholharam Mashhadi

An Efficient YOLOv7x Based Automated Street Parking Space Detection for Smart Cities 37
Tala Bazzaza, Hamid Reza Tohidypour, Yixiao Wang, and Panos Nasiopoulos

Approach to Modeling Energy Consumption of Auxiliary Consumers in Electric Vehicles 41
Tuyen Nguyen, Hendrik Schulte, and Reiner Kriesten

A Holistic Approach on Automotive Cybersecurity for Suppliers 47
Jose Angel Gumiel Quintana, Jon Mabe Alvarez, Jaime Jimenez Verde, and Jon Barruetabena Pujana