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Call for Papers
Feature Topic on Human Driver Behaviours for Intelligent Vehicles

With the advancement of sensing, machine learning, and computing systems, automated driving applications have been growing rapidly worldwide. Together with the development of communication technologies such as dedicated short-range communication, extensively emerging intelligent vehicles have been developed to connect with vehicles, pedestrians, infrastructures, and clouds in the transportation network. Thus, intelligent vehicles have become intelligent mobile terminal that carries rich functions and services, which expand and deepen the scope of human-machine interaction between human drivers and intelligent vehicles in the intelligent cockpit. Human drivers are the center of intelligent vehicles. To make future vehicles trustworthy in driving safety, acceptable in social travel efficiency, and comfortable in the driving experience, developing technologies based on human drivers' reliable knowledge and cognitive intelligence together with smart operation is an essential and promising solution. However, there are many challenges to be addressed including real-time human driver perception, adaptive regulation of inappropriate driving operation, safe and comfortable interaction between human drivers and intelligent vehicles intelligent cockpits, etc.

To alleviate these challenges, emerging technologies based on artificial intelligence are gradually becoming overwhelming in the related communities. This special issue aims to provide a platform for researchers, engineers, and policymakers to publish their latest research findings or engineering experiences in developing and applying novel technologies to address the challenges concerning human driver behaviours for intelligent vehicles. The potential topics of interest include, but are not limited to, the following:

- Computational driver behaviour modelling
- Abnormal driver behaviour detection
- Driver-automation collaboration
- Cognitive and affective computing
- Driver skill learning and behaviour adaptation
- Cognitive intelligence and driver social behaviours

Important Dates

Submission Deadline: May 31, 2023

First Round Decision Due: July 31, 2023

Final Manuscript Due: Nov. 1, 2023

Guest Editors

Dr. Dongpu Cao, Professor, Tsinghua University, China

Dr. Dongpu Cao received his Ph.D. degree from Concordia University, Canada, in 2008. He is a Professor at Tsinghua University. His current research focuses on driver cognition, automated driving, and cognitive autonomous driving. He has contributed more than 200 papers and 3 books. He received the SAE Arch T. Colwell Merit Award in 2012, IEEE VTS 2020 Best Vehicular Electronics Paper Award, and 6 Best Paper Awards from international conferences. Prof. Cao has served as Deputy Editor-in-Chief for IET INTELLIGENT TRANSPORT SYSTEMS JOURNAL, and an Associate Editor for IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY, IEEE TRANSACTIONS ON

INTELLIGENT TRANSPORTATION SYSTEMS, IEEE/ASME TRANSACTIONS ON MECHATRONICS, IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, IEEE/CAA JOURNAL OF AUTOMATICA SINICA, IEEE TRANSACTIONS ON COMPUTATIONAL SOCIAL SYSTEMS, and ASME JOURNAL OF DYNAMIC SYSTEMS, MEASUREMENT AND CONTROL. Prof. Cao is an IEEE VTS Distinguished Lecturer.

Dr. Argyrios Zolotas, Professor, Cranfield University, UK

Dr. Argyrios Zolotas received his Ph.D. degree in advanced electronic and electrical engineering from Loughborough University, Loughborough, U.K., in 2002. He held academic positions with the University of Sussex, Brighton, U.K., and Loughborough University, and a Postdoctoral Research Fellowship with Imperial College London, U.K. In 2014, he joined the School of Engineering, University of Lincoln, U.K., as a Reader and the Deputy Director of research. Since 2019, he has been a Reader in systems and control with the Centre of Autonomous and Cyber-Physical Systems, School of Aerospace, Cranfield University, Cranfield, U.K. His expertise is in Systems and Control Engineering, including robust control and fault tolerant control, system architecture, and AI-based and data-driven control. Since joining Cranfield University, he is leading work in autonomous systems for ground, aerial and rail-related concepts.

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Dr. Meng Wang received the B.Sc. degree from Tsinghua University in 2003, the M.Sc. degree from the Research Institute of Highway (RIOH), Ministry of Transport, in 2006, and the Ph.D. degree (Hons.) from TU Delft in 2014. He was an Assistant Professor (tenured in 2019) at the Department of Transport and Planning of TU Delft, from 2015 to 2021 and the Co-Director of the Electric and Automated Transport Laboratory (hEAT lab). From 2006 to 2009, he was an Assistant Researcher at the National ITS Center of RIOH and a Post-Doctoral Researcher at the Automotive Group, Faculty of Mechanical Engineering, TU Delft, from 2014 and 2015. He is a Full Professor (W3) and the Head of the Chair of Traffic Process Automation with the “Friedrich List” Faculty of Transport and Traffic Sciences, Technische Universität Dresden. His main research interests are traffic flow modelling and control, driver behaviour, control design, and impact assessment of connected and automated vehicles. He was a recipient of the IEEE ITS Society Best Ph.D. Dissertation Award in 2015 and the IEEE International Conference on Intelligent Transportation Systems (ITSC) Best Paper Award in 2013. He is an Associate Editor of the journal IEEE TRANSACTIONS OF INTELLIGENT TRANSPORTATION SYSTEMS, IET ITS, and Transportmetrica B and the Editorial Board Member of Transportation Research Part C.

Dr. Mohammad Pirani, Research Assistant Professor, University of Waterloo, Canada

Dr. Mohammad Pirani is a research assistant professor with the Department of Mechanical and Mechatronics Engineering, University of Waterloo. Before that, he held postdoctoral research positions at the University of Toronto (from 2019 to 2021) and KTH Royal Institute of Technology, Sweden (2018 to 2019). He received his M.A.Sc. in Electrical and Computer Engineering and Ph.D. in Mechanical and Mechatronics Engineering, both from the University of Waterloo, Canada, in 2014 and 2017, respectively. His research interests include resilient and secure networked control systems with applications to intelligent transportation systems and multi-agent systems. He is a member of the IEEE-CSS technical committee on smart cities.

Dr. Wenbo Li, Postdoctoral Research Fellow, Tsinghua University, China

Dr. Wenbo Li received his Ph.D. degree in automotive engineering from Chongqing University, Chongqing, China, in 2021. He is currently a Postdoctoral Research Fellow at Tsinghua University, Beijing, China. His research interests include intelligent vehicles, intelligent cockpit, human emotion and cognition, driver emotion detection and regulation, human-machine interaction, affective computing, brain-machine interface.

Submission Guidelines

The paper submission & review process will be handled through Automotive Innovation

1. Please submit online via www.springer.com/42154, be sure to select **Topical Collection: Human Driver Behaviours for Intelligent Vehicles**.
2. Papers should be submitted in two separate .doc files: 1) Blinded Manuscript (paper title, abstract, keywords, and full text); 2) Title Page (paper title, author affiliation, acknowledgment, and any other information related to the authors' identification).
3. All manuscripts will be peer reviewed and evaluated based on quality, originality, novelty, and relevance to the topics.
4. If any problems, please feel free to contact the journal editorial office via email: jai-editor@sae-china.org .

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The journal provides a forum for the research of principles, methodologies, designs, theoretical background, and cutting-edge technologies in connection with the development of vehicle and mobility. The main topics cover: energy-saving, electrification, intelligent and connected, safety, and emerging vehicle technologies.

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