Metaverse for Connected and Automated Vehicles and Intelligent Transportation Systems

The metaverse aims to blur the boundary between the physical world and digital content. To achieve this goal, the metaverse heavily relies on extended reality (XR), IoT, and communication technologies. With such an overlap in supporting technologies, we expect a convergence between connected and automated vehicle applications and the metaverse. Connected and automated vehicles are mobile platforms equipped with significant sensing and computing capabilities that can augment the metaverse. On the other hand, immersive metaverse applications can improve the en route entertainment and driving experience of the driver and passenger. Meanwhile, the richer information collected and created from the metaverse has created new challenges, such as information filtering, object positioning, vision transformation, etc. These challenges are often computation-intensive and bring considerable additional delay to the connected and automated vehicles which demand near real-time reactions. Researchers have thus proposed edge and cloud computing, machine learning, and computer vision solutions to tackle such challenges.

The aim of this special issue is to invite submissions for new works on applying different techniques to improve the driving experience of automatic/connected vehicle services, in terms of facing the coming metaverse era. We are soliciting original contributions that are not published or currently under consideration by any other journals/conference. The topics of interest include, but are not limited to:

- Metaverse for Connected and Automated Vehicles
- AR/VR/XR for Connected and Automated Vehicles
- Digital Twin for Intelligent Transportation Systems
- XR for vehicular streaming
- XR for vehicular manufacturing
- XR for vehicle diagnose
- Sensing and communications for the Metaverse of Connected and Automated Vehicles
- Edge and cloud computing for the Metaverse of Connected and Automated Vehicles
- Machine learning for the Metaverse of Connected and Automated Vehicles

All manuscripts should contain state-of-the-art material presented in a tutorial or survey style, and must adhere to IEEE VTM guidelines:
http://www.ieeevtc.org/vtmagazine/submission.php

Submit a PDF version of complete manuscripts to ScholarOne Manuscripts™:
http://mc.manuscriptcentral.com/vtm-ieee

IMPORTANT DATES

- Manuscript Submission by **15 April 2023**
- First Round Reviews **15 June 2023**
- Second Round Submissions **1 August 2023**
- Second Round Reviews / Editorial Decisions **15 September 2023**
- Final Submissions by **???**
- Publication **December 2023**

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