Special Issue

Explainable Deep Architectures for Saliency-Based Autonomous Vehicle Driving Monitoring

Message from the Guest Editors

The latest generation of autonomous vehicles needs to collect a wide variety of multi-modal sampled data processed by several sensing systems embedded in the car. The data which are most relevant in reducing the autonomous driving risk level are those of the perceptual type including vision, LiDAR, RADAR, accelerometer data and so on. Through advanced deep learning-based solutions, it is possible to reconstruct the driving scene, driving dynamics, and driving risk level in order to constantly monitor the safety level of the self-driving vehicle as well as the actions to be taken in order to minimize the driving risk. In order to better characterize the criteria analyzed by the deep learning engines embedded in self-driving cars, recent scientific research proposes the use of explainable architectures that highlight the activations used by the networks to determine autonomous driving actions. Furthermore, the visual analysis of driving scenarios based on the salience concept will make the autonomous driving system more efficient and robust.

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Drones is the only international open-access journal about the science, policy and technology of drones and its applications. Nowadays, the proliferation of drones is a reality for local policy makers, regulatory bodies, mapping authorities, startups and consolidated companies. There are many uses and benefits of drones: from the emergence of new sensors and the evolution of new platforms; to the development of specific software and the emergence of new applications. *Drones* publishes reviews, regular research papers, communications and short notes, without restriction on the length of papers. *Drones* seeks to provide a central forum for scholars engaged in drones' research and applications.
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