

## Special Issue

# The Application of Deep Learning in Intelligent Vehicle Perception Systems

### Message from the Guest Editors

This Special Issue is focused on the study, research, and discovery related to the application of deep learning algorithms to intelligent vehicle perception systems, which mainly includes identifying various objects, such as pedestrians, vehicles, traffic signs, and obstacles, through object detection and semantic segmentation. This allows the vehicle to make informed decisions based on its surroundings; to provide a comprehensive understanding of the environment by fusing the data from various sensors such as cameras, LiDAR, and radar; to detect driver fatigue, distraction, or impairment and alert the driver or initiate corrective actions when necessary; to predict the whether the maintenance of vehicles is necessary by analyzing sensor data and detecting anomalies or signs of potential equipment failure; to predict traffic flow patterns and congestion levels based on historical data, real-time traffic updates, and environmental factors; and to train and simulate various driving scenarios in virtual environments.

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## Vehicles

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