Special Issue

Path Tracking for Automated Driving

Message from the Guest Editors

Ground vehicle path-tracking control constitutes the cornerstone of fully autonomous driving. Advanced modeling, estimation, and control techniques have been continuously invented and implemented to achieve high-performance path tracking for automated driving, especially under adversary situations. In addition to the safety requirements, energy-saving should also be accounted for during path-tracking controller design to achieve sustainable transportation, especially when autonomous vehicles are deployed on a large scale. Finally, objective and systematic evaluation frameworks to compare the strengths and weaknesses of various path-tracking algorithms are still severely lacking.

This Special Issue is devoted to theoretical breakthroughs, practical solutions, and comprehensive evaluations of novel modeling, estimation, and control algorithms for ground vehicle path tracking. Topics include, but are not limited to, the following: automated driving systems, path tracking for collision avoidance, energy-optimal trajectory following, and path tracking controller evaluation.

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