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报告

混合增强智能驾驶

Hybrid Augmented Intelligent Driving Vehicles

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讲者介绍 Biography

薛建儒，工学博士，教授。2003年在西安交通大学获工学博士学位，现在西安交通大学人工智能与机器人研究所从事教学科研工作。2002-2003年在日本富士施乐公司研究本部工作，2008-2009年在美国加州大学洛杉矶分校访问研究。主要研究领域为计算机视觉与模式识别、无人车环境理解及自主运动。任中国自动化学会会士、理事及混合智能专业委员会主任，中国图形图像学会理事及视觉大数据专业委员会副主任。入选国家万人计划科技创新领军人才、教育部长江学者奖励计划，获国家自然科学基金二等奖与技术发明二等奖、IEEE ITS 学会杰出研究团队奖、ACCV2012 最佳应用论文奖等奖项。合著有英文学术专著《Statistical Learning and Pattern Analysis Approaches to Image and Video Processing》(Springer 出版，2009年)

Jianru Xue, Phd, Professor, Changjiang Scholar. He got his MS and PhD degrees from Xi'an Jiaotong University in 1999 and 2003, respectively. Since 1999, he joined the Institute of Artificial Intelligence and Robotics at Xi'an Jiaotong University, Xi'an, China, where he currently is a full professor. He had worked in FujiXerox, Tokyo, Japan, from 2002 to 2003. He had visited University of California, Los Angeles, from 2008 to 2009. His research interests include computer vision and pattern recognition, machine learning, and autonomous driving. He and his team won the IEEE ITSS Institute Lead Award in 2014, and the best application paper award in Asian Conference on Computer Vision 2012. He is co-author of the book Statistical Learning and Pattern Analysis approaches to Image and Video Processing, published by Springer-verlag in 2009. He has published 100+ papers in top cited journals and conferences including IEEE TPAMI, IEEE TIP, CVPR, ICCV, ICRA, IROS, etc. He had served as organization chair or co-chair of several international conferences including VALSE2012, VLPR2011, VLPR2010, ACCV2010, VSMM2006, and so on. He also served on the technical program committee of peer-reviewed conferences ICME, ACCV, ICPR, IVS, etc

报告摘要 Abstract

无人驾驶无疑是目前人工智能领域最具颠覆性的智能系统，将深刻变革我们的交通运输与出行模式。然而，实现完全的自动驾驶依然面临着诸多不确定性、脆弱性和开放性问题，因此需要将人的作用或者人的认知模型引入到智能驾驶系统中，形成人机协同的混合增强智能驾驶。本报告旨在探讨人机协同的混合增强智能驾驶和受脑认知和神经科学启发的自动驾驶两种混合增强驾驶形态，主要包括增强智能驾驶中的示教、模仿与交互学习及受脑和神经科学启发的自主智能等核心问题及我们课题组所取得部分研究进展。

Autonomous driving is an undoubtedly disruptive technology in the field of artificial intelligence and robotics, which will affect almost all aspects of our communities. However, making a self-driving car capable of autonomous intelligence in real traffics still faces many open and challenging problems. Thus, we need to adopt the role of human driver or learning from skilled human drivers. This line of thoughts leads to an emerging research topic, hybrid augmented intelligent driving. In this report, we discuss the hybrid augmented intelligent driving systems which can integrates human intelligence and machine intelligence, and its core ideas are inspired by both brain and neuro science. We also report our recent research results on robot learning methods including Learning by demonstration, imitation learning, and interactive learning.

有兴趣合作之项目 Interested topics for future collaboration

自动驾驶相关