<<第四届国际计算智能和工业应用研讨会论文>>

图书基本信息

书名：<<第四届国际计算智能和工业应用研讨会论文集>>

13位ISBN编号：9787121113154

10位ISBN编号：7121113155

出版时间：2010-7

出版时间：电子工业出版社

作者：于晓洋 编

页数：403

字数：672000

内容概要

近些年模糊系统、人工神经网络、演化计算等计算智能方法得到了突飞猛进的发展，并在很多领域得到成功应用。

本书是第四届国际计算智能和工业应用研讨会论文集，共收录了61篇优秀论文，分别从人工神经网络、模糊系统、进化计算、先进控制技术、图像处理、数据分析、数据挖掘、预测与预估、计算机技术和机器人与机电一体化等方面，阐述了当前国内外关于计算智能的最新发展趋势和研究成果，介绍了多种基于计算智能方法的工业应用实例，可以进一步促进计算智能方法的发展，为科研人员和工程技术人员提供新的解决问题的思路。

书籍目录

章节摘录

Abstract: Car driver's motion estimation is important for developing safety driving systems .We propose to use particle filters for this purpose .Several sensors, such as camera to capture driver'sface, velocity sensor using Doppler Effect of microwave for driver's foot motions, and microphones to record and to identify drivelsvoice, are placed at experimental cabin of drivingsimulator with three display panels. From thesesensor signals, particle filters estimate thein formation to be obtained based on someel aborated state space models. So obtainedinformation are gathered to server machine for making global recognition of the driver's body motion. We have implemented the data gatheringsystem based on server-client framework onTCP/IP.Keywords: Safety Driving, Support System, Body Motion, Particle Filter. I Introduction Assistance of safety driving by relaxing card river's workload to prevent traffic accidents is worth not only for the car driver him/herself but also other traffics including other cars, bikes, bicycles and pedestrians. Recent development of technologies arrows us to use various functional sensors, such as camera, laser range finder, and soon, with reasonable price and easy way to use, and computers have become small and high performance. Thus we can use such functionalsensors as well as highly sophisticated signal processing methods for supporting safety driving. For example, detection system of for wardobstacles by measuring forwarding cars with camera and/or laser range finder, parking assistant system by merging multiple camera images of surrounding of a car into a single image of topview, detection of eye motion and/or eyelid fromcar driver's face image to observe the driver's condition, and so on. Some of these examples have already been in consumer products while some others have been in a phase of research and development. It Seems that in these conventional systems for safety driving rather simple signal processing methods have been employed due to strictly shorter sponse time and limitation of ECU （Electronic Control Unit） performance in time. Most of actual signals such as camera image and laser range measurement include various aspects of noises, sowe need to use some method to reduce such noises . ……

编辑推荐

《第四届国际计算智能和工业应用研讨会论文集》International Fuzzy System，Association （IFSA）；Japan Society for Fuzzy Theory and Intelligent Information （SOFT）；Singapore Industrial Automation Association （SIAA）；Harbin University of Science and Technology, China；Changchun University of Science and Technology, China；Guangdong Polytechnic Normal University, China；Institute of Automation, Chinese Academy of Sciences。