中国科学院智能信息处理重点实验室

学术报告

SRN: Side-output Residual Network for Object Symmetry Detection in the Wild

陈杰

芬兰Oulu大学

时间：6月27日上午10:00-12:00

地点：计算所421会议室

报告摘要：

In this paper, we establish a baseline for object symmetry detection in complex backgrounds by presenting a new benchmark and an end-to-end deep learning approach, opening up a promising direction for symmetry detection in the wild. The new benchmark, named Sym-PASCAL, spans challenges including object diversity, multi-objects, part-invisibility, and various complex backgrounds that are far beyond those in existing datasets. The proposed symmetry detection approach, named Side-output Residual Network (SRN), leverages output Residual Units (RUs) to fit the errors between the object symmetry groundtruth and the outputs of RUs. By stacking RUs in a deep-to-shallow manner, SRN exploits the 'flow' of errors among multiple scales to ease the problems of fitting complex outputs with limited layers, suppressing the complex backgrounds, and effectively matching object symmetry of different scales. Experimental results validate both the benchmark and its challenging aspects related to realworld images, and the state-of-the-art performance of our symmetry detection approach.

报告人简介：

Jie Chen received the M.S. and Ph.D. degrees from the Harbin Institute of Technology, Harbin, China, in 2002 and 2007, respectively. Since September 2007, he has been a senior researcher with the Center for Machine Vision and Signal Analysis at the University of Oulu, Finland. In 2012 and 2015, he visited University of Maryland and Duke University in USA, respectively. His research interests include pattern recognition, computer vision, machine learning, dynamic texture and watermarking. He has authored over 50 papers in journals and conferences and he is a Program Committee Member for many conferences. Dr. Chen was a Co-Chair of International Workshops at ICCV2017, CVPR2016 and ACCV2014. He is associate editor for The Visual Computer and also served as a guest editor for Neurocomputing 2014 and TPAMI 2017. He is a member of the IEEE.

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