关闭 Web of Science 打印

第 1 页 (记录 1 -- 1)

[1]

第 1 条，共 1 条

标题: Active Contour Driven by Weighted Hybrid Signed Pressure Force for Image Segmentation

作者: Fang, JX (Fang, Jiangxiong); Liu, HX (Liu, Huaxiang); Zhang, CT (Zhang, Citing); Liu, J (Liu, Jun); Liu, HS (Liu, Hesheng)

来源出版物: IEEE ACCESS **卷:** 7 **页:** 97492-97504 **DOI:** 10.1109/ACCESS.2019.2929659 **出版年:** 2019

Web of Science 核心合集中的 "被引频次": 0

被引频次合计: 0

使用次数 (最近 180 天): 2

使用次数 (2013 年至今): 2

引用的参考文献数: 30

摘要: This study presents a novel active contour model (ACM) driven by weighted global and local region-based signed pressure force (SPF) to segment images in the presence of intensity inhomogeneity and noise. First, an adaptive weighted global region-based SPF (GRSPF) function as the driving centers is designed based on the global image information, which is based on the normalized global intensity to update the weights of the inner and outer regions of the curve during iterations. Second, by introducing the normalized absolute local intensity differences as the weighs of the inner and outer regions, an adaptive weighted local region-based SPF (LRSPF) function is similarly defined. Third, instead of setting a fixed force, a force propagation function is introduced to automatically balance the interior and exterior forces according to the image feature. Meanwhile, by combing the adaptive GWSPF and LWSPF functions, a weighted hybrid region-based SPF function is defined, which can improve the efficiency and accuracy of the proposed model. The experimental results on real images demonstrate that the proposed model is more robust than the popular region-based ACMs for segmenting images with intensity inhomogeneity and noise. The code is available at https://github.com/fangchj2002/WHRSPF.

入藏号: WOS:000478965600001

语言: English

文献类型: Article

作者关键词: Image segmentation; active contour; signed pressure force; intensity inhomogeneity

KeyWords Plus: SCALABLE FITTING ENERGY; LEVEL SET EVOLUTION; MODEL; MUMFORD; SNAKES

地址: [Fang, Jiangxiong; Liu, Huaxiang; Zhang, Citing; Liu, Hesheng] East China Univ Technol, Jiangxi Prov Key Lab Digital Land, Nanchang 330013, Jiangxi, Peoples R China.
[Fang, Jiangxiong; Liu, Jun] East China Univ Technol, Sch Geophys & Measure Control Technol, Nanchang 330013, Jiangxi, Peoples R China.

通讯作者地址: Fang, JX; Liu, HS (通讯作者)，East China Univ Technol, Jiangxi Prov Key Lab Digital Land, Nanchang 330013, Jiangxi, Peoples R China.
Fang, JX (通讯作者)，East China Univ Technol, Sch Geophys & Measure Control Technol, Nanchang 330013, Jiangxi, Peoples R China.

电子邮件地址: fangchj2002@163.com; hsliu@vip.163.com

作者识别号:

作者	Web of Science ResearcherID	ORCID 号
fang, jiangxiong		0000-0002-8960-9941

出版商: IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC

出版商地址: 445 HOES LANE, PISCATAWAY, NJ 08855-4141 USA

Web of Science 类别: Computer Science, Information Systems; Engineering, Electrical & Electronic; Telecommunications

研究方向: Computer Science; Engineering; Telecommunications

IDS 号: IN8YL

ISSN: 2169-3536

29 字符的来源出版物名称缩写: IEEE ACCESS

ISO 来源出版物缩写: IEEE Access

来源出版物页码计数: 13

基金资助致谢:

基金资助机构	授权号
National Natural Science Foundation of China	61463005 61866001 21664002 61463017
China Postdoctoral Science Foundation	2017M612163
Natural Science Foundation of Jiangxi Province	20181BAB211017 20171BAB202028
Jiangxi Provincial Key Laboratory of Digital Land	DLLJ201804
Science and technology project of Jiangxi Provincial Department of Education	GJJ170450 GJJ160539

The work was supported in part by the National Natural Science Foundation of China under Grant 61463005, Grant 61866001, Grant 21664002, and Grant 61463017, in part by the China Postdoctoral Science Foundation under Grant 2017M612163, in part by the Natural Science Foundation of Jiangxi Province under Grant 20181BAB211017 and Grant 20171BAB202028, in part by the Jiangxi Provincial Key Laboratory of Digital Land under Grant DLLJ201804, and in part by the Science and technology project of Jiangxi Provincial Department of Education under Grant GJJ170450 and Grant GJJ160539.

开放获取: DOAJ Gold

输出日期: 2020-04-19

关闭 Web of Science 打印

第 1 页 (记录 1 -- 1)

[1]

Clarivate

Accelerating innovation

登录以获取 Web of Science 时事新闻 关注我们