Contents

2D and 3D Geometric Properties from Incomplete Data (GPID 2015)

Optimal Knots Selection for Sparse Reduced Data 3
   Ryszard Kozera and Lyle Noakes

Moving Cast Shadow Detection Using Joint Color and Texture Features
with Neighboring Information 15
   Bingshu Wang, Wenqian Zhu, Yong Zhao, and Yongjun Zhang

Detection of Surface Defects of Type ‘orange skin’ in Furniture Elements
with Conventional Image Processing Methods 26
   Leszek J. Chmielewski, Arkadiusz Orłowski, Katarzyna Śmietanińska,
   Jarosław Górski, Krzysztof Krajewski, Maciej Janowicz,
   Jacek Wilkowski, and Krystyna Kietlińska

Measuring Convexity via Convex Polygons 38
   Paul L. Rosin and Joviša Žunić

Iris Segmentation Using Geodesic Active Contours and GrabCut 48
   Sandipan Banerjee and Domingo Mery

Robust Segmentation of Aerial Image Data Recorded for Landscape
Ecology Studies 61
   Rafael Guillermo Gonzalez Acuña, Junli Tao, Daniel Breen,
   Barbara Breen, Steve Pointing, Len Gillman, and Reinhard Klette

Integrated Parallel 2D-Leap-Frog Algorithm for Noisy Three Image
Photometric Stereo 73
   Ryszard Kozera, Felicja Okulicka-Dłużewska, and Lyle Noakes

Heuristic Assessment of Parameters of the Local Ground Approximation
from Terrestrial LIDAR Data 88
   Marcin Bator, Leszek J. Chmielewski, and Arkadiusz Orłowski

A Parallel Implementation for Computing the Region-Adjacency-Tree
of a Segmentation of a 2D Digital Image 98
   Fernando Díaz-del-Río, Pedro Real, and Darian Onchis

Vision Meets Graphics (VG 2015)

Two Plane Volumetric Display for Simultaneous Independent Images
at Multiple Depths 113
   Marco Visentini-Scarzanella, Takuto Hirukawa, Hiroshi Kawasaki,
   Ryo Furukawa, and Shinsaku Hiura
Analysis on Coupled Line Cameras Using Projective Geometry .......................... 127  
*Jinwoo Lee, Joo-Haeng Lee, and Junho Kim*

Real-Time Image Based Lighting for 360-Degree Panoramic Video. ............. 139  
*Thomas Iorns and Taehyun Rhee*

**Robot Vision (RV 2015)**

Enhancing Automated Defect Detection in Collagen Based Manufacturing by Employing a Smart Machine Vision Technique ................................. 155  
*Christopher D. Williams, Manoranjan Paul, and Tanmoy Debnath*

Computer Vision Technology for Vehicular Robot to Follow Guided Track Using Neuro-Fuzzy System ................................. 167  
*Young-Jae Ryoo*

Automatic Matting Using Depth and Adaptive Trimap. ............................. 179  
*Ying Zhao, Chao Chen, Liyan Liu, and Wei Wang*

Multi-Run: An Approach for Filling in Missing Information of 3D Roadside Reconstruction ........................................... 192  
*Haokun Geng, Hsiang-Jen Chien, and Reinhard Klette*

Design and Calibration of Multi-camera Systems for 3D Computer Vision: Lessons Learnt from Two Case Studies ........................................ 206  
*Tom Botterill, Matthew Signal, Steven Mills, and Richard Green*

Attribute Based Affordance Detection from Human-Object Interaction Images ........................................... 220  
*Mahmudul Hassan and Anuja Dharmaratne*

**Mathematical and Computational Methods in Biomedical Imaging and Image Analysis (MCBMIIA 2015)**

Hardware Acceleration of SVM-Based Classifier for Melanoma Images ...... 235  
*Shereen Afifi, Hamid GholamHosseini, and Roopak Sinha*

Automatic Pose Estimation Using Contour Information from X-Ray Images ........................................... 246  
*Erik Soltow and Bodo Rosenhahn*

A Study on Model Selection from the $q$-Exponential Distribution for Constructing an Organ Point Distribution Model ................................. 258  
*Mitsunori Yamada, Hidekata Hontani, and Hiroshi Matsuzoe*
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passive and Active Electro-Optical Sensors for Aerial and Space Imaging (EO4AS 2015)</td>
<td></td>
</tr>
<tr>
<td>Recent Progress in In-Flight Radiometric Calibration and Validation of the RapidEye Constellation of 5 Multispectral Remote Sensing Satellites.</td>
<td>273</td>
</tr>
<tr>
<td>Andreas Brunn, Sara Bahloul, Dietrich Hoffmann, and Cody Anderson</td>
<td></td>
</tr>
<tr>
<td>Verification of a Spectrometer Breadboard for Characterization of a Future Spaceborne Sensor</td>
<td>285</td>
</tr>
<tr>
<td>Horst Schwarzer, Andreas Eckardt, and Ralf Reulke</td>
<td></td>
</tr>
<tr>
<td>Video Surveillance (VSWS 2015)</td>
<td></td>
</tr>
<tr>
<td>Moving Shadow Detection from Background Image and Deep Learning</td>
<td>299</td>
</tr>
<tr>
<td>Jong Taek Lee, Kil-Taek Lim, and Yunsu Chung</td>
<td></td>
</tr>
<tr>
<td>Extracting Player’s Stance Information from 3D Motion Data:</td>
<td>307</td>
</tr>
<tr>
<td>A Case Study in Tennis Groundstrokes</td>
<td></td>
</tr>
<tr>
<td>Boris Bačić</td>
<td></td>
</tr>
<tr>
<td>Fusion of Foreground Object, Spatial and Frequency Domain Motion Information for Video Summarization</td>
<td>319</td>
</tr>
<tr>
<td>Md. Musfequs Salehin and Manoranjan Paul</td>
<td></td>
</tr>
<tr>
<td>Network Intrusion Detection Based on Neural Networks and D-S Evidence</td>
<td>332</td>
</tr>
<tr>
<td>Chunlin Lu, Lidong Zhai, Tao Liu, and Na Li</td>
<td></td>
</tr>
<tr>
<td>A Secure Lightweight Texture Encryption Scheme</td>
<td>344</td>
</tr>
<tr>
<td>Alireza Jolfaei, Xin-Wen Wu, and Vallipuram Muthukumarasamy</td>
<td></td>
</tr>
<tr>
<td>Event Analogy Based Privacy Preservation in Visual Surveillance</td>
<td>357</td>
</tr>
<tr>
<td>Wei Qi Yan and Feng Liu</td>
<td></td>
</tr>
<tr>
<td>Author Index</td>
<td>369</td>
</tr>
</tbody>
</table>
Image and Video Technology – PSIVT 2015 Workshops
RV 2015, GPIP 2013, VG 2015, E04AS 2015, MCBMIIA
2015, and VSWS 2015, Auckland, New Zealand,
November 23-27, 2015. Revised Selected Papers
Huang, F.; Sugimoto, A. (Eds.)
2016, XXV, 370 p. 203 illus. in color., Softcover
ISBN: 978-3-319-30284-3