Integral Local Binary Patterns: a Novel Approach Suitable for Texture-Based Object Detection Tasks

Eanes Torres Pereira, Herman Martins Gomes and João Marques de Carvalho
Universidade Federal de Campina Grande

Proposed Approach (INTLBP)

![Diagram of Integral Local Binary Patterns]
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Some Results

<table>
<thead>
<tr>
<th>Training face size</th>
<th>F-Measure (%)</th>
<th>INTLBP</th>
<th>LBPri</th>
</tr>
</thead>
<tbody>
<tr>
<td>232 × 280</td>
<td>59.76</td>
<td>58.80</td>
<td></td>
</tr>
<tr>
<td>116 × 140</td>
<td>72.95</td>
<td>69.94</td>
<td></td>
</tr>
<tr>
<td>58 × 70</td>
<td>81.72</td>
<td>38.32</td>
<td></td>
</tr>
<tr>
<td>29 × 35</td>
<td>37.08</td>
<td>24.70</td>
<td></td>
</tr>
</tbody>
</table>

Processing times versus number of windows

- INTLBP
- LBPri
On the Design and Evaluation of a Precise Scalable Fiducial Marker Framework

Vilar F. da Camara Neto (FUCAPI)
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Fiducial Markers

- Visual features attached to world objects, robots, etc.
- Recovery of subject’s position, orientation & identification

Uncolored (black/white) markers
- Only 4 features (corners) to extract full 3D pose → Sensitive to noise
- Changes of illumination intensity may compromise correct border detection

Colored blobs
- Require prior color calibration
- Sensitive to illumination changes
- Low accuracy
- Hard to extract full 3D pose

Proposed color markers
- Luminance channel: Localization → Accurate 3D pose recovery
- Saturation channel: Identification → 10,000s of distinct markers / error detection+correction
- Easy separation of black/white, saturated/unsaturated colors → No precise color calibration needed
Violence Detection in Video Using Spatio-Temporal Features
Violence Detection in Video Using Spatio-Temporal Features

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