Case I: Application to human fall detection

The results obtained by applying the video processing algorithms for human fall detection is presented in brief in this section. Detailed results are presented in the thesis. The artifacts are removed and false alarm/false dismissal rate is minimized. These instances correspond to a fall being missed as a sit or a sit being alarmed as a fall. The results are tabulated in table 6.1 for forward fall, backward fall and backward sit and forward sit detection.

**Table 6.1 Detection of Forward, Backward Movement and Sitting Position**

<table>
<thead>
<tr>
<th>Contour Mapping for Backward movement</th>
<th></th>
<th>contour Mapping for Forward movement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Segmented Output for Backward movement</td>
<td></td>
<td>Segmented Output for Forward movement</td>
</tr>
<tr>
<td>Segmented Output for Backward sitting</td>
<td></td>
<td>Segmented Output for forward sitting</td>
</tr>
<tr>
<td>Identifying ROI Person alone during Backward movement</td>
<td></td>
<td>Identifying ROI Person alone during Forward movement</td>
</tr>
</tbody>
</table>
Case II: Position Detection

The different position of a human face were captured and presented to the algorithm for position detection. Each position was modulated with a particular constellation, noise was added and filtered for real time effects and the detected position was compared with the actual. The modulation of position information was done using QAM-256 scheme. The captured input positions, matching algorithm during runtime and the classified output is shown in figure 6.1 and figure 6.3 respectively.

Position 1 (b) position 2(c) position 3 (d) position 4

Figure 6.1 Shows the Various Captured Sample Input Image for Position Detection

Figure 6.2 Sample Screen Captured Results for Face Position 4 Successfully Detected
Case III: Privacy preservation in video images

The text was hidden in the video image and to protect the data privacy, slicing of video image was done. The input frame, sliced frames and the matched images (i.e. where the query text matched with the hidden text) are shown in figure 6.4a to figure 6.4c. The video frames available for public storage corresponds to the sliced frames and hence privacy preservation is achieved. As a sample two of the three images, the same text was hidden and the corresponding images alone were successfully retrieved.
Case IV: Conventional Mining and Thread Based

In this research, the mining rate of video frames that match with the query text (hidden in the sliced frame) is improved by using a thread based mining. The improvement in speed is obtained as a measure. Figure 6.5a to figure 6.5c shows the screen captured results corresponding to the use of both normal method (i.e. conventional mining) and the thread based mining (used in this work).
Figure 6.5b Mining for Hidden Text in Video Images Using Thread Method

Figure 6.5c Screen Shot for Threads Detected Using Threading Method
6.1 ENTROPY BASED IMAGE CLASSIFIER

p(+) value in dpsk 6 (no. of position positive)
p(-) value in dpsk 5 (no. of position negative)

<table>
<thead>
<tr>
<th>num_features</th>
<th>num_f_value</th>
<th>t_pos_dpsk</th>
<th>t_neg_dpsk</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Number of frames which position information was true positive 6
Number of frames which position information was true positive 5

pos_pos, pos_neg, neg_pos, neg_neg

<table>
<thead>
<tr>
<th>pos_pos</th>
<th>pos_neg</th>
<th>neg_pos</th>
<th>neg_neg</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

\[ F_i = \begin{bmatrix} 5 & 3 \\ 2 & 2 \end{bmatrix} \]

From the above matrix,
Among the 12 image frames, for the 5 frames feature f1 IS TRUE and position-1 has been detected
Among the 12 image frames, for the 3 frames feature F1 is true but position-1 not detected
There are 12 image frames, for 2 frames feature not detected but position has been detected
There are 12 image frames, for 2 frames feature not detected and position also not detected

Information conveyed by the item A is \(-\frac{5}{6} \log_2 \frac{5}{6}\)

Information conveyed by the item B is \(-\frac{3}{5} \log_2 \frac{3}{5}\)

Information conveyed by the item C is \(-\frac{2}{6} \log_2 \frac{2}{6}\)

Information conveyed by the item D is \(-\frac{2}{5} \log_2 \frac{2}{5}\)

p++ and p++ + p+- 5.0 6.0

Item (A) (f_pos_1 is 0.614285614286
p++ and p++ + p+- 2.0 6.0
Item (C) f_pos_2 is 0.285614285614

p++ and p++ + p+- 3.0 5.0

Item (B) f_neg_1 is 0.6

p++ and p++ + p+- 2.0 5.0

Item (D) f_neg_2 is 0.4

log_pos_1 value is 0.346633446969 It is obtained by -5/6 log_2 5/6
log_pos_2 value is 0.516386120588 It is obtained by -2/6 log_2 2/6
log_neg_1 value is 0.4421693565 It is obtained by -3/5 log_2 3/5
log_neg_2 value is 0.528661236955 It is obtained by -2/5 log_2 2/5

P(+) is 6/12 log_2 6/12

h_pos 0.503486998331

P(-) is 5/12 log_2 5/12

h_neg 0.404562646689

h for f is 0.90804964602

4332