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8      <font face="times new roman">
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10
11
12      <a name="schedule">
13      <h2>Schedule (tentative)</h2>
14      <table border=1 width=800 cellpadding=5 cellspacing=0>
15      <tr bgcolor=FFFFCC>
16      <td width=100><b>Date</b></td>
17      <td width=300><b>Topic</b></td>
18      <td width=400><b>Readings (F&P 2nd ed.), assignments</b></td></tr>
19
20      <tr>
21      <td>August 27</td>
22      <td>Introduction: <b><a href="Slides/lec01_intro-daf.pptx">PPTX</a></b>,
23      <b><a href="Slides/lec01_intro-daf.pdf">PDF</a></b></td>
24      <td><b>Self-study:</b> See <a href="resources">resources</a> for Python and linear algebra tutorials, feel free to try <a href="https://web.e
25      </tr>
26
27      <tr>
28      <td>August 29</td>
29      <td>Image processing: <b><a href="PPTX/lec02_image_processing-daf.pptx">PPTX</a></b>, <b><a href="Slides/lec02_image_processing-daf.pdf">PDF<
30      <td><a href="Notes/SimpleImageProcessing.pdf"> <strong> draft image processing notes from "The New Computer Vision"</strong></td>
31      </tr>
32
33      <tr>
34      <td>Sep 3</td>
35      <td><p>Image processing cont. (slides above)</p>
36      <p>Linear Filtering: <b><a href="PPTX/lec03_filter-daf-a.pptx">PPTX</a></b>, <b><a href="Slides/lec03_filter-daf-a.pdf">PDF</a></b></p>
37      <td><p><b><font color="red">Homework:</font></b> <b><a href="Assignments/Assignment1-daf.html">Assignment 1 Draft</a></b></p>
38      <b>Image Filtering Reading:</b> F&P ch. 4, <a href="Notes/Filtering.pdf"> draft filtering notes from "The New Computer Vision"</a></td>
39      </tr>
40
41      <tr>
42      <td>Sep 5</td>
43      <td><ul> <li>Finish Linear filtering: Slides and notes above;</li>
44      <li> start Mosaics and Registration <a href="PPTX/lec04_mosaics-daf.pptx"> PPTX</a>
45      <a href="Slides/lec04_mosaics-daf.pdf">PDF</a>;</li>
46      </ul></td>
47      <td><b>Reading:</b><ul> <li><a href="Notes/Mosaics.pdf"> draft mosaic notes from "The New Computer Vision"</a></li>
48      <li><a href="https://ieeexplore.ieee.org/document/664279"> Video Indexing from Mosaic Representations</a>, M Irani and Anandan, Proc IEEE
49      </td>
50      </tr>
51
52      <tr>
53      <td>Sep 10</td>
54      <td>Public Holiday (Labor Day)</td>
55      <td>Have fun! If you don't know, find out why US celebrates Labor day on
56      a different day than others.</td></tr>
57
58      <tr>
59      <td>Sep 12</td>
60      <td><ul><li>Non-linear Filtering <a href="PPTX/lec03_filter-daf-b.pptx"> PPTX</a>, <a href="Slides/lec03_filter-daf-b.pdf">PDF</a></li>
61      <li>Fourier analysis: <b><a href="PPTX/lec04_frequency-daf.pptx">PPTX</a></b>, <b><a href="Slides/lec04_frequency-daf.pdf">PDF</a></b></li>
62      </td>
63      <td><b>Reading:</b><ul><li>Szeliski 3.4</li><li> F&P sec. 5.1-5.2</li>
64      <li><a href="Notes/samplingaliasingft2.pdf"> draft Fourier Transform notes from "The New Computer Vision"</a></li></ul> </td>
65      </tr>
66
67      <tr>
68      <td>Sep 17</td>
69      <td><ul>
70      <li> Finish Fourier analysis, Sampling and Aliasing</li>
71      </ul></td>
72      <td><p><b>Assignment 1 due!</b></p><b>Reading:</b> F&P sec. 5.3</td>
73      </tr>
74
75      <tr>
76      <td>Sep 19</td>
77      <td><ul> <li> Edge detection: <b><a href="PPTX/lec05_edge-daf.pptx">PPTX</a></b>
78      <b><a href="Slides/lec05_edge-daf.pdf">PDF</a></b></li>
79      </ul></td>
80      <td><b>Reading:</b><ul><li> <a href="Notes/edgenotes.pdf"> draft edge notes from TNCV</a></li>
81      </ul> </td>
82      </tr>
83
84      <tr>
85      <td>Sep 24</td>
86      <td><ul><li>Corner detection: <b><a href="PPTX/lec06_corner-daf.pptx">PPTX</a></b>, <b><a href="Slides/lec06_corner-daf.pdf">PDF</a></b></li>
87      <li>SIFT keypoint detection: <b><a href="PPTX/lec07_sift-daf.pptx">PPTX</a></b>, <b><a href="Slides/lec07_sift-daf.pdf">PDF</a></b></li>
88      </ul>
89      </td>
90      <td><b>Reading:</b><ul> <li><a href="Notes/corners.pdf"> draft interest point notes from TNCV</a></li><li>F&P sec. 11.1</li> <li><a href="Notes/corners.pdf"> draft interest point notes from TNCV</a></li>
91      </ul> </td>
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93

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94 <tr>
95 <td>Sep 26</td>
96 <td><ul><li>Optical flow: <b><a href="PPTX/lec08_optical_flow-daf.pptx">PPTX</a></b>, <b><a href="Slides/lec08_optical_flow-daf.pdf">PDF</a></b></li>
97 </ul></td>
98 <td><b>Reading:</b> F&P sec. 10.2-10.4, 22.1
99 <p><b><font color="red">Homework:</font></b> <b><a href="Assignments/Assignment2-daf.html">Assignment 2 Draft</a></b> Due Oct 9</p></td>
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101
102 <tr>
103 <td>Oct 1</td>
104 <td><ul> <li>Fitting: <b><a href="PPTX/lec09_fitting-daf.pptx">PPTX</a></b>, <b><a href="Slides/lec09_fitting-daf.pdf">PDF</a></b></li>
105 </ul></td>
106 <td><b>Reading:</b><ul><li> F&P sec. 12.1</li>
107 <li><a href="Notes/fittingnotes.pdf"> <strong> draft fitting notes from "The New Computer Vision"</strong></a> </li>
108 </ul></td>
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111 <tr>
112 <td>Oct 3</td>
113 <td><ul>
114 <li> Alignment: <b><a href="PPTX/lec10_alignment-daf.pptx">PPTX</a></b>, <b><a href="Slides/lec10_alignment-daf.pdf">PDF</a></b></li></ul>
115 <td><b>Reading:</b><ul><li> F&P sec. 12.1</li>
116 <li><a href="Notes/fittingnotes.pdf"> <strong> draft fitting notes from "The New Computer Vision"</strong></a> </li>
117 <li><a href="Notes/grouping.pdf"> <strong> grouping (a human analogy with fitting; enrichment) from "The New Computer Vision"</strong></a> </li>
118 <li><a href="Notes/registration.pdf"> <strong> registration from "The New Computer Vision"</strong></a> </li>
119 </ul></td>
120 </tr>
121
122 <tr>
123 <td>Oct 8</td>
124 <td><strong> I am travelling; no lecture in person</strong>
125 <ul><li>In lieu of lecture watch this movie on<a href="ClassMovies/RobustAndFastAlignment.mp4"> Robust alignment and
126 fast alignment</a> including hierarchical k-means</li></ul></td>
127 <td><b>Reading:</b> F&P ch. 1<br>
128 </td>
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130
131 <tr>
132 <td>Oct 10</td>
133 <td><strong> I am travelling; no lecture in person</strong><ul> <li> In lieu of lecture watch this movie on<a href="ClassMovies/Cameras.mp4">
134 </td><b>Reading:</b> F&P ch. 2<br>
135 </td>
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138 <tr>
139 <td>Oct 15</td>
140
141 <td><ul><li>Light and shading: <b><a href="PPTX/lec12_light-daf.pptx">PPTX</a></b>, <b><a href="Slides/lec12_light-daf.pdf">PDF</a></b></li></ul>
142 <td><ul><li><b>Reading:</b> F&P ch. 3</li>
143 <li><b><font color="red">Homework:</font></b> <b><a href="Assignments/Assignment3-daf.html">Assignment 3 Draft</a></b></li>
144 <li><a href="Notes/lightnotes.pdf"> Light and shading notes from TNCV</a></li></ul></td>
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147 <tr>
148 <td>Oct 17</td>
149 <td><ul><li>Color: <b><a href="PPTX/lec13_color-daf.pptx">PPTX</a></b>, <b><a href="Slides/lec13_color-daf.pdf">PDF</a></b></li>
150 </ul></td>
151 <td><b>Reading:</b> <ul> <li> F&P ch. 1</li> <li> <a href="Notes/colornotes.pdf"> Color Notes from TNCV</a></li></ul>
152 <b><a href="CV23projects.html">Project rules and information</a></b></td>
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156 <td>Oct 22</td>
157 <td><ul><li>Perspective projection: <b><a href="PPTX/lec14_perspective-daf.pptx">PPTX</a></b>, <b><a href="Slides/lec14_perspective-daf.pdf">PDF</a></b></li>
158 </ul></td>
159 <td><b>Reading:</b> F&P ch. 1
160 <ul><li> <a href="Notes/basiccameras.pdf">Basic camera properties and perspective effects from TNCV</a></li><li> <a href="Notes/cameras">
161 </ul>
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165 <tr>
166 <td>Oct 24</td>
167
168 <td><ul><li>Camera calibration: <b><a href="PPTX/lec15_calibration-daf.pptx">PPTX</a></b>, <b><a href="Slides/lec15_calibration-daf.pdf">PDF</a></b></li>
169 <td><b> Missing lecture recording</b>
170 <p> The lecture recording went astray, and it's nobody's fault! <a href="Recordings/replacementlecture.mp4"> Here </a> is a very rough r
171 <ul><li> <a href="Notes/cameramodels.pdf">calibration and single view metrology from TNCV</a></li>
172 </ul><b><a href="CV23projects.html">Project proposals</a> due</b></td>
173 </tr>
174
175 <tr>
176 <td>Oct 29</td>
177 <td>Epipolar geometry: <b><a href="PPTX/lec17_epipolar-daf.pptx">PPTX</a></b>, <b><a href="Slides/lec17_epipolar-daf.pdf">PDF</a></b>
178 <td><b>Reading:</b> F&P sec. 7.1, <a href="https://www.robots.ox.ac.uk/~vgg/hzbook/hzbook2/HZepipolar.pdf">H&Z ch. 9</a><br>
179 </td>
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182 <tr>
183 <td>Oct 31</td>
184 <td>Structure from motion: <b><a href="PPTX/lec18_sfm-daf.pptx">PPTX</a></b>, <b><a href="Slides/lec18_sfm-daf.pdf">PDF</a></b> </td>
185 <td><b>Reading:</b> F&P ch. 8<br>
186 <b> <font color="red"> Homework not quite ready yet</font></b>
187 </td>

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188 <!-- <b><font color=red>Homework:</font></b> <b><a href="assignment4.html">Assignment 4</a></b>-->
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192 <tr>
193 <td>Nov 5</td>
194 <td> Finish structure from motion (above)</td>
195 <td><b>Reading:</b> F&P ch. 7
196 <ul><li><b>Assignment 3 due</b></li>
197 <li><b><font color="red"> Homework </font></b><b><a href="Assignments/Assignment4-daf.html">Assignment 4</a></b></li>
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202 <td>Nov 7</td>
203 <td>Two-view stereo: <b><a href="PPTX/lec19_stereo-daf.pptx">PPTX</a></b>, <b><a href="Slides/lec19_stereo-daf.pdf">PDF</a></b>
204 </td>
205 <td><b>Project progress reports due November 13</b>
206 </td>
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208
209 <tr>
210 <td>Nov 12</td>
211 <td>Multi-view stereo: <b><a href="PPTX/lec20_multiview_stereo-daf.pptx">PPTX</a></b>, <b><a href="Slides/lec20_multiview_stereo-daf.pdf">PDF
212 <td><b>Reading:</b><a href="https://carlos-hernandez.org/papers/fnt_mvs_2015.pdf"> Multi-view Stereo: A Tutorial</a>
213 by Y. Furukawa and C. Hernandez, 2015. (This will be far more than most people need, but it's extremely informative)</td>
214 </tr>
215
216 <tr>
217 <td>Nov 14</td>
218 <td>Light field modeling: <b><a href="PPTX/lec21_plenoptic-daf.pptx">PPTX</a></b>, <b><a href="Slides/lec21_plenoptic-daf.pdf">PDF</a></b> </
219 <td></td>
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224 <td>Recognition: <b><a href="PPTX/lec22_recognition_overview-1-daf.pptx">PPTX</a></b>, <b><a href="Slides/lec22_recognition_overview-1-daf.pd
225 <td><b><font color=red>Homework:</font></b> <b><a href="Assignments/Assignment5-daf.html">Assignment 5</a></b></td>
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228 <tr>
229 <td>Nov 22</td>
230 <td>More recognition and basic network mechanics: <b><a href="PPTX/lec22_recognition_overview-2-daf.pptx">PPTX</a></b>, <b><a href="Slides/le
231 <td>&nbsp;</td>
232 </tr>
233
234 <tr> <td> November 26 </td> <td><strong> Thanksgiving break</strong></td><td></td></tr>
235 <tr> <td> November 29 </td> <td><strong> Thanksgiving break</strong></td><td></td></tr>
236
237
238
239 <tr> <td>Dec 3 </td><td><ul><li> Detection mechanics and evaluation: <b><a href="PPTX/lec22_recognition_overview-2-daf.pptx">PPTX</a></b>
240 <li> Tracking and Kalman filters<b><a href="PPTX/lec23_tracking_overview-daf.pptx">PPTX</a></b>, <b><a href="Slides/lec23_tracki
241 </td><td><b>Assignment 4 due November 27</b></td></tr>
242 <tr> <td>November 29 </td><td> Tracking and Kalman Filters (slides as above)</td><td></td></tr>
243
244 <tr>
245 <td><b><td>Dec 5</td>
246 <td>Multi Object Tracking (slides as above)</td>
247 <td><b>Assignment 5 due December 11</b></td>
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249
250
251 <tr>
252 <td>Dec 10</td>
253 <td>Weather and Generation <b> <a href="PPTX/final-lec-open.pptx"> PPTX</a>, <a href="Slides/final-lec-open.pdf"> PDF</a></b></td>
254 <td><ul> <li><b>Final project reports due December 12</b></li>
255 <li>
256 <b> Assignment 5 due 11 Dec</b></li></ul></td>
257 </tr>
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259 </table><br>
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261 <a name="resources">
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263
264
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