Module: COMP6206
Title: Advanced Computer Vision.
Lecturer: Dr. J N Carter
Prof. Mark Nixon
Deadline: Weekly
Feedback: Immediate.
Weighting: 60%

Instructions

Aim:
- Learn by practice advanced techniques in Computer Vision.
- Communicate above to peers by giving a short presentation.
- Familiarity with implementing Computer Vision algorithms.
- Example work may be found at https://secure.ecs.soton.ac.uk/notes/comp6206/

Objectives:
Students working in small groups (2-3) take material from source papers and books for advanced Computer Vision algorithms and implement them.

Topics have included:
- Active Contours without Edges
- Mathematical Morphology
- Phase Congruency
- Force Field Transforms
- Anisotropic Diffusion
- Scale Invariant Feature Transform.

A full list is available at https://secure.ecs.soton.ac.uk/notes/comp6206/#The_talks_are_here

Requirements:
Each group will present 3 presentations. 1 resulting from 1 week’s preparation the remainder from 2 weeks each. In the presentation they are required to discuss
- The theoretical background
- Implementation issues
- Analysis of their results and if possible comparison with the original authors work.
- Demonstrate the algorithm at work. This will be their own implementation.

What to hand in:
- Presentation material,
- Implementation code
- Test pictures and the
- Original source papers.

Submission and Feedback

Submission is electronic vis C-Bass.

Feedback is immediate, publicly during the session and privately via e-mail immediately after the session if necessary.
Presentations are double marked.

Each pair of students will receive face to face feedback once all presentations have been completed.

### Relevant Learning Outcomes (LOs)

1. To build working computer vision systems.
2. To appreciate the stock of technique available for computer vision.
3. To learn the principles of developing and applying computer vision.
4. To practice (and perfect!) presentation techniques and group coursework.

### Marking Scheme

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Description</th>
<th>LOs</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation</td>
<td>To further practice skills for presentations.</td>
<td>4</td>
<td>0%</td>
</tr>
<tr>
<td>Building</td>
<td>To build working computer vision systems researching</td>
<td>1, 3</td>
<td>40%</td>
</tr>
<tr>
<td>Learning Tools</td>
<td>To learn the use of appropriate tools</td>
<td>2, 3</td>
<td>20%</td>
</tr>
</tbody>
</table>

Late submissions will be penalised at 10% per working day. No work can be accepted after feedback has been given. You should expect to spend up to 10 hours on this assignment. Please note the University regulations regarding academic integrity.