Computer Vision

16-720 Fall 2024

**Meeting Times:** TR 3:30 pm – 4:50 pm

**Location:** Tepper School of Business (TEP) 1403

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Week** | **Day** | **Date** | **Topic** | **Assignment** |
| 1 | T | 27-Aug | **Computer Vision: Past, Present and Future** |  |
| Th | 29-Aug | **Filtering and Edge Detection** |  |
| 2 | T | 3-Sep | **Filtering and Edge Detection (cont)** |  |
| Th | 5-Sep | **Application: Visual words, Texton based Classification** | **HW1 Out** |
| 3 | T | 10-Sep | **Feature Detectors** |  |
| Th | 12-Sep | **Image Representations** |  |
| 4 | T | 17-Sep | **Image Formation** |  |
| Th | 19-Sep | **Camera Geometry, Calibration, Homography** | **HW1 due, HW2 out** |
| 5 | T | 24-Sep | **2-View and 3-View Geometry** |  |
| Th | 26-Sep | **Binocular Stereo** |  |
| 6 | T | 1-Oct | **Structure from Motion** |  |
| Th | 3-Oct | **Structure from Motion II** |  |
| 7 | T | 8-Oct | **Structured Light and Range Imaging** | **HW2 due, HW3 out** |
| Th | 10-Oct | **Object Detection** |  |
|  | T | 15-Oct | **No Class (Mid-semester Break)** |  |
| Th | 17-Oct | **No Class (Mid-semester Break)** |  |
| 8 | T | 22-Oct | **Deep Learning I** |  |
| Th | 24-Oct | **Deep Learning II** |  |
| 9 | T | 29-Oct | **Segmentation I** | **HW3 due, HW4 out** |
| Th | 31-Oct | **Segmentation II** |  |
| 10 | T | 5-Nov | **Democracy Day (No Classes)** |  |
| Th | 7-Nov | **Lucas Kanade Tracking** |  |
| 11 | T | 12-Nov | **Motion and Optical Flow** |  |
| Th | 14-Nov | **Motion Segmentation** |  |
| 12 | T | 19-Nov | **Materials, BRDF** |  |
| Th | 21-Nov | **Photometric Stereo** | **HW4 due, HW5 out** |
| 13 | T | 26-Nov | **Direct and Global Illumination** |  |
| Th | 28-Nov | **Thanksgiving** |  |
| 14 | T | 3-Dec | **Ethics and Computer Vision** |  |
| Th | 5-Dec | **Cool recent results in Computer Vision** | **HW5 Due** |
| 15 | T | 10-Dec | **Final exams week** |  |
| Th | 12-Dec |  |  |