Introduction to Computer Vision

Jean Ponce, Mathieu Aubry, Gül Varol, Karteek Alahari Class notes by Antoine Groudiev



Contents

1	Introduction to Computer Vision	2
2	Camera Geometry	2
3	Camera Calibration	2
4	Image processing using filters and convolutions	2
5	Edge detection	2
6	Radiometry and Color	2
7	Color perception and Two-view geometry	2
8	Epipolar Geometry and Binocular Stereopsis	2
9	Markov random fields	2
10	Recovering structure from motion	2
11	Mean-shift algorithm for segmentation	2
12	Multi-view object models	2
13	Neural Networks for Visual recognition	2
14	Learning methods	2

Abstract

This document is Antoine Groudiev's class notes while following the class *Introduction to Computer Vision* (Introduction à la vision artificielle) at the Computer Science Department of ENS Ulm. It is freely inspired by the class notes written by Jean Ponce, Mathieu Aubry, Gül Varol and Karteek Alahari.

- 1 Introduction to Computer Vision
- 2 Camera Geometry
- 3 Camera Calibration
- 4 Image processing using filters and convolutions
- 5 Edge detection
- 6 Radiometry and Color
- 7 Color perception and Two-view geometry
- 8 Epipolar Geometry and Binocular Stereopsis
- 9 Markov random fields
- 10 Recovering structure from motion
- 11 Mean-shift algorithm for segmentation
- 12 Multi-view object models
- 13 Neural Networks for Visual recognition
- 14 Learning methods