Computer Vision

RECOMMENDED TEXTBOOKS

Emanuele Trucco and Alessandro Verri. *Introductory Techniques for 3-D Computer Vision.* Prentice Hall 1998. ISBN: 0-13-261108-2H.

David A. Forsyth and Jean Ponce. *Computer Vision: a Modern Approach*. Prentice Hall 2002. ISBN: 0-13-085198-1

Lecture Plan

TOPIC: IMAGE FORMATION

Week 1	02. May	Introduction to Computer Vision
		Administrative Information
		Geometric Image Formation
		Radiometry

Week 2	09. May	Camera Parameters (camera vs. world coords)
		Noisy Sensors
		Convolution
		Smoothing

TOPIC: IMAGE FEATURES

Week 3	16. May	Edge Detection
		Multi-resolution Analysis

Week 4	23. May	Texture Filters
		Texture Synthesis
		Shape from Texture

Week 5	30. May	Color

Week 6	06. June	Hough Transform
		Basic Binocular Stereo Setup

Week 7	13. June	

No lecture 13.06.11 and 14.06.11

TOPIC: MULTIPLE IMAGES

Week 8	20. June	Correspondence Problem Triangulation Structured Light Multiview Geometry Epipolar Geometry
Week 9	27. June	Deformable Contours Basic Motion Analysis
Week 10	4. July	Optical Flow Motion Field Differential Method
Week 11	11. July	Differential Method Kalman Filtering
Week 12	18. July	Kalman Filtering Particle Filtering
Week 13	25. July	SIFT Features Review