

Outline

CS376 Computer Vision

Monday, February 7, 2011

Color

Measuring color

- Spectral power distribution
 - Definition, examples
- Color mixing
 - Additive
 - Subtractive
- Color matching
 - Motivation
 - Experiment setup
 - Choice of primaries
 - Metamers
 - Grassman's laws for additive matching
 - Computing primary intensities for a test light
- Color spaces
 - Definition of primaries
 - Linear, non-linear examples: RGB, XYZ, HSV
 - Distance in color space
 - "just noticeable differences"
 - Uniform color spaces

Perception of color

- Human photoreceptors
 - Rods, cones
 - Trichromatic nature
 - Environmental effects, adaptation; Color matching vs. color appearance

Using color in vision systems

- Color histograms for CBIR
- Color for skin detection
- Segmenting distinctive colors for robot vision

Reminder: Pset 1 due Mon Feb 14, 11:59 PM