

## Computer Vision (CSE 576)

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## Computer Vision (CSE 576)

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### Today

- computer vision overview
- course overview
- filtering

### Handouts

- signup sheet
- intro slides
- image filtering slides

## Every picture tells a story

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Goal of computer vision is to write computer programs that can interpret images

## Can computers match human perception?

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Yes and no (but mostly no!)

- humans are much better at "hard" things
- computers can be better at "easy" things

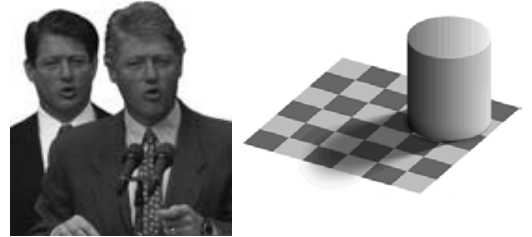
## Perception

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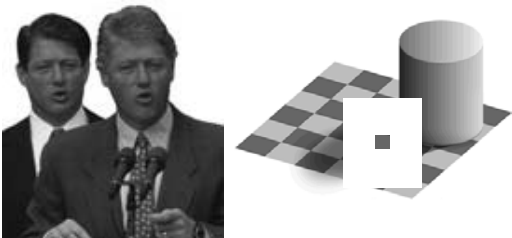
## Perception

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## Perception

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## Applications: Image Enhancement

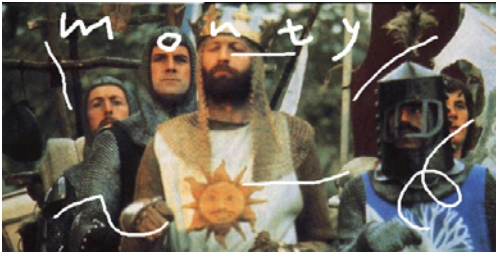
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*Image Inpainting*, M. Bertalmio et al.  
<http://www.iaa.upf.es/~mbertalmio/restoration.html>

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## Applications: Recognition

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## Applications: Special Effects

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ESC Entertainment, XYZRGB, NRC

## Applications: Special Effects

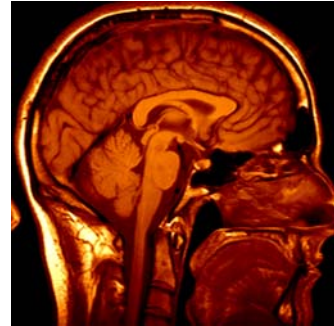
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Andy Serkis, Gollum, Lord of the Rings

## Applications: Medical Imaging

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## Applications: Robotics

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## Course Projects

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### Autostitch (Brown and Lowe)

- <http://www.cs.ubc.ca/~mbrown/autostitch/autostitch.html>

### We will build this in three pieces

- feature detection, matching
- image alignment, blending
- bundle adjustment

## Final Project

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Open-ended project of your choosing

## General Comments

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Prerequisites—*these are essential!*

- Data structures
- A good working knowledge of C and C++ programming
  - (or willingness/time to pick it up quickly!)
- Linear algebra
- Vector calculus

Course does **not** assume prior imaging experience

- no image processing, graphics, etc.

## Course Info

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Web Page

- <http://www.cs.washington.edu/education/courses/cse576/05sp/>