

Machine Perception CIS 580 Spring 2010

Grading Policy: Homeworks 50%, Midterm 20%, Final 30%

Homeworks on paper and using Matlab.

Midterm is on paper.

Final is a project to be demonstrated in class.

Textbook: Szeliski !! <http://research.microsoft.com/en-us/um/people/szeliski/Book/>

Additional resources:

Zisserman and Hartley, Multiple View Geometry

Forsyth and Ponce, Computer Vision A Modern Approach

Castleman, Digital Image Processing



Machine Perception: in this course only vision => computer vision

Main journals of the field:

- IEEE Pattern Analysis Machine Intelligence (PAMI)
- Int. Journal of Computer Vision (IJCV)
- CVIU, IVC, PR, PRL,..

Main conferences of the field:

- IEEE Computer Vision Pattern Recognition
- IEEE Int. Conf. Computer Vision
- European Conference Computer Vision

Graphics and Robotics are the nearest fields, great vision papers at SIGGRAPH as well as at ICRA and Trans. Robotics or IJRR.

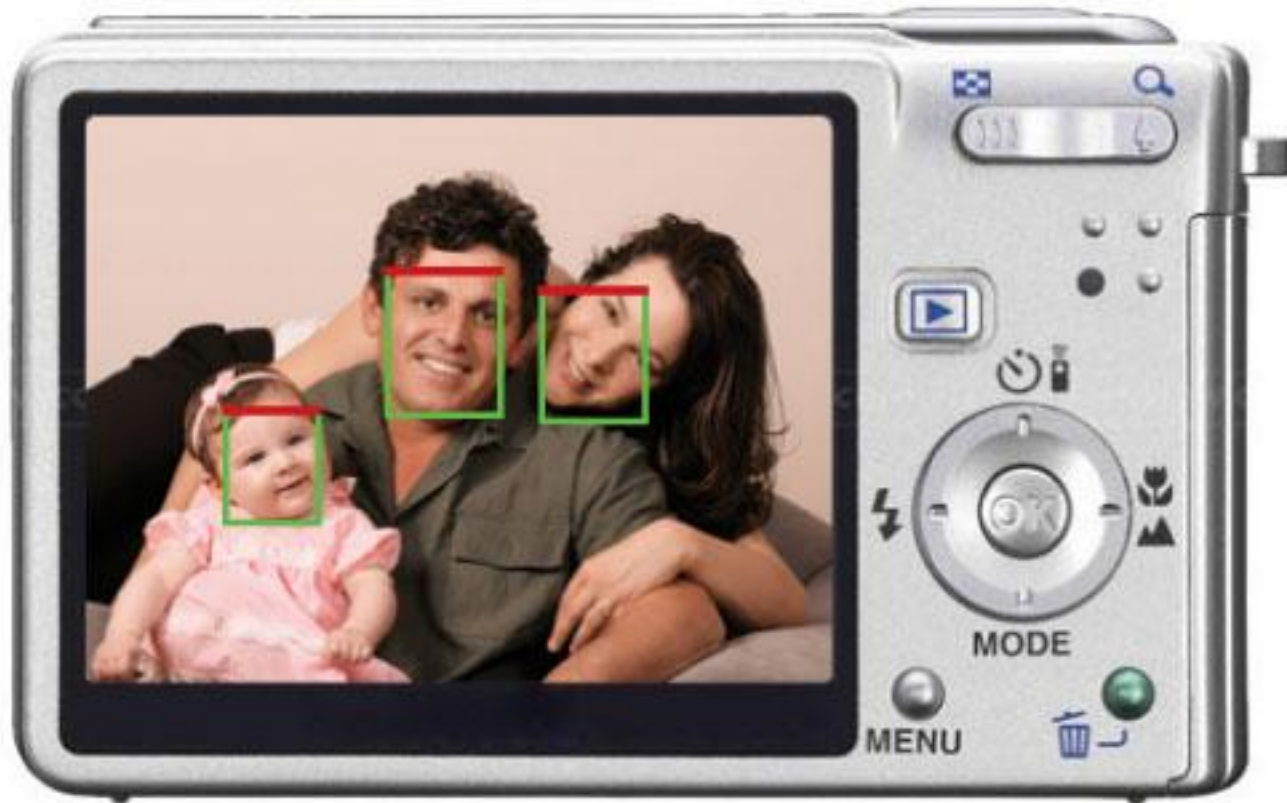
Applications: JPEG-MPEG compression



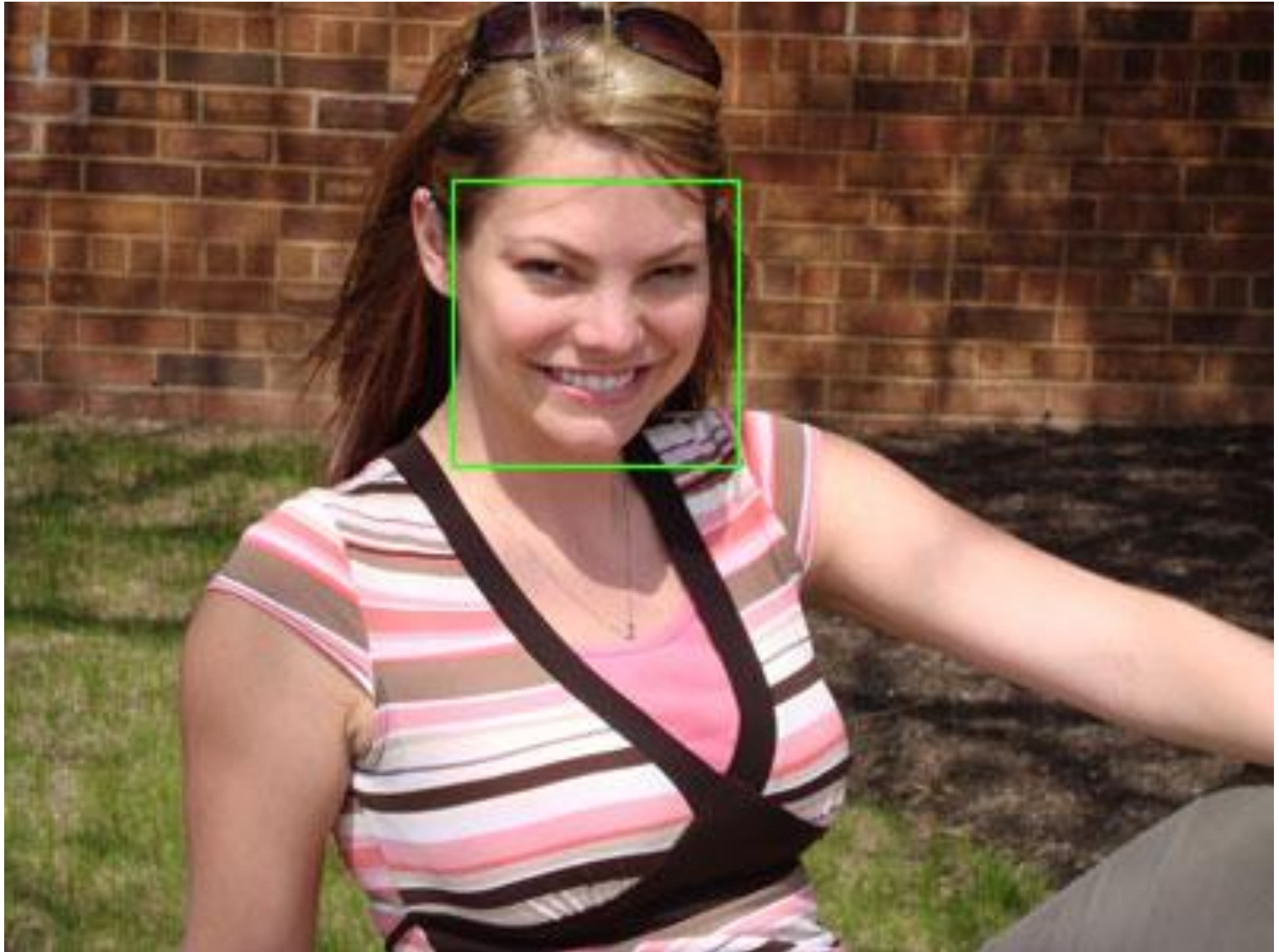
OCR



Face detection inside millions of cameras



Smile detection in cameras



Panoramic stitching

In all photo-management systems (here photoshop)



Object removal in photo editors



Videosurf.com

Beta Feedback | Discover By Character | **VIDEOSURF** BETA | Madoff | Search | Save Search to My Homepage | Filter By

Search Results: **Madoff** Displaying 1 to 15 of 757 matches

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 ABC News (23)
 FOX News (19)
 Google Video (10)
 CBS 5 (10)
 Revver (9)
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 MySpace TV (4)
 blip.tv (4)
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Show Only Faces:

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Video: Why isn't Madoff behind bars?
Jan. 13: TODAY's Matt Lauer talks to NBC's chief legal analyst, Dan Abrams, about why Bernie Madoff has been allowed to stay in his Manhattan penthouse while he awaits trial for allegedly running a giant Ponzi scheme. (Today Show)
Views: — | Time: 1:56 | Added: 1 day ago

Video: Financier Madoff stays out of jail
Jan. 13: A judge is allowing accused swindler Bernie Madoff to remain under house arrest in his Manhattan penthouse pending a trial on charges that he ran a \$50 billion Ponzi scheme. CNBC's Erin Burnett reports. (Today Show)
Views: — | Time: 2:55 | Added: 1 day ago

Madoff Still A Free Man
A NY judge allowed Bernard Madoff to remain under house arrest after rejecting an attempt by prosecutors to jail him for attempting to send money to his friends and family. Randall Pinkston reports.
Views: — | Time: 1:40 | Added: 1 day ago

Video: Bernie Madoff gets a break
Jan. 12: Accused swindler Bernie Madoff remained confined to his apartment on bail after a judge decided not to jail him Monday. CNBC's Trish Regan reports. (Nightly News)
Views: — | Time: 2:08 | Added: 1 day ago

Video: Madoff remains on bail
Jan. 12: A judge has ruled that Bernard Madoff will remain free on bail, pending trial on alleged investment fraud. A CNBC panel, and Madoff investor discuss. (CNBC)
Views: — | Time: 4:34 | Added: 1 day ago


Madoff's Still Free, New Bail Restrictions
FOXBusiness.com's Dunstan Prial on NYC judge's ruling to allow Madoff to remain under house arrest with new, stricter bail conditions.
Views: — | Time: 2:03 | Added: 1 day ago

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Sportsvision.com: Tracking and annotating



Tracking and replacing images: Imagineer



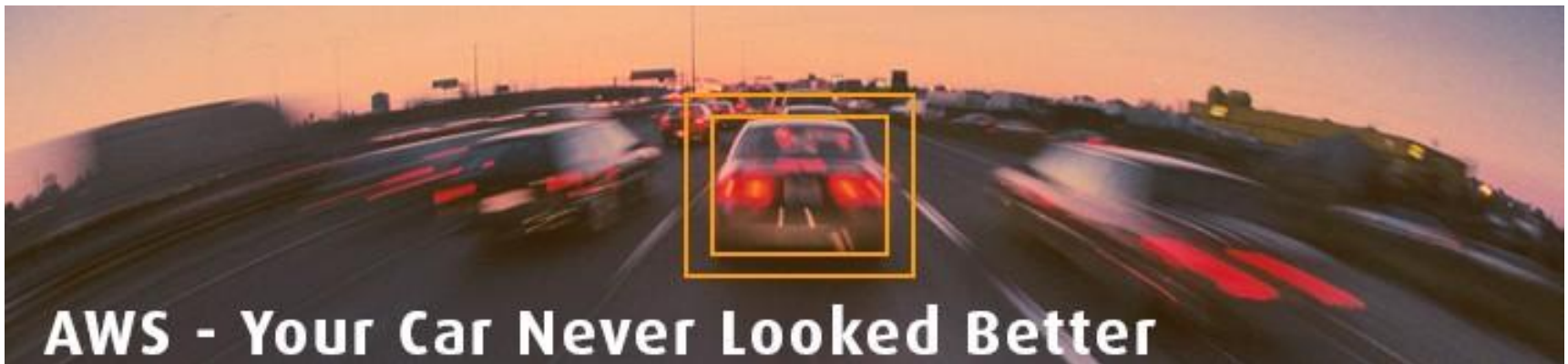
Evoretail.com



Bottom of the cart and top of the cart detection!

MobileEye

- Lane Departure Warning (BMW 5' series)
- Forward Collision System (2.7 sec ahead)
- Headway monitoring and Warning
- Off-road path finding



Surveillance



Microsoft Photosynth

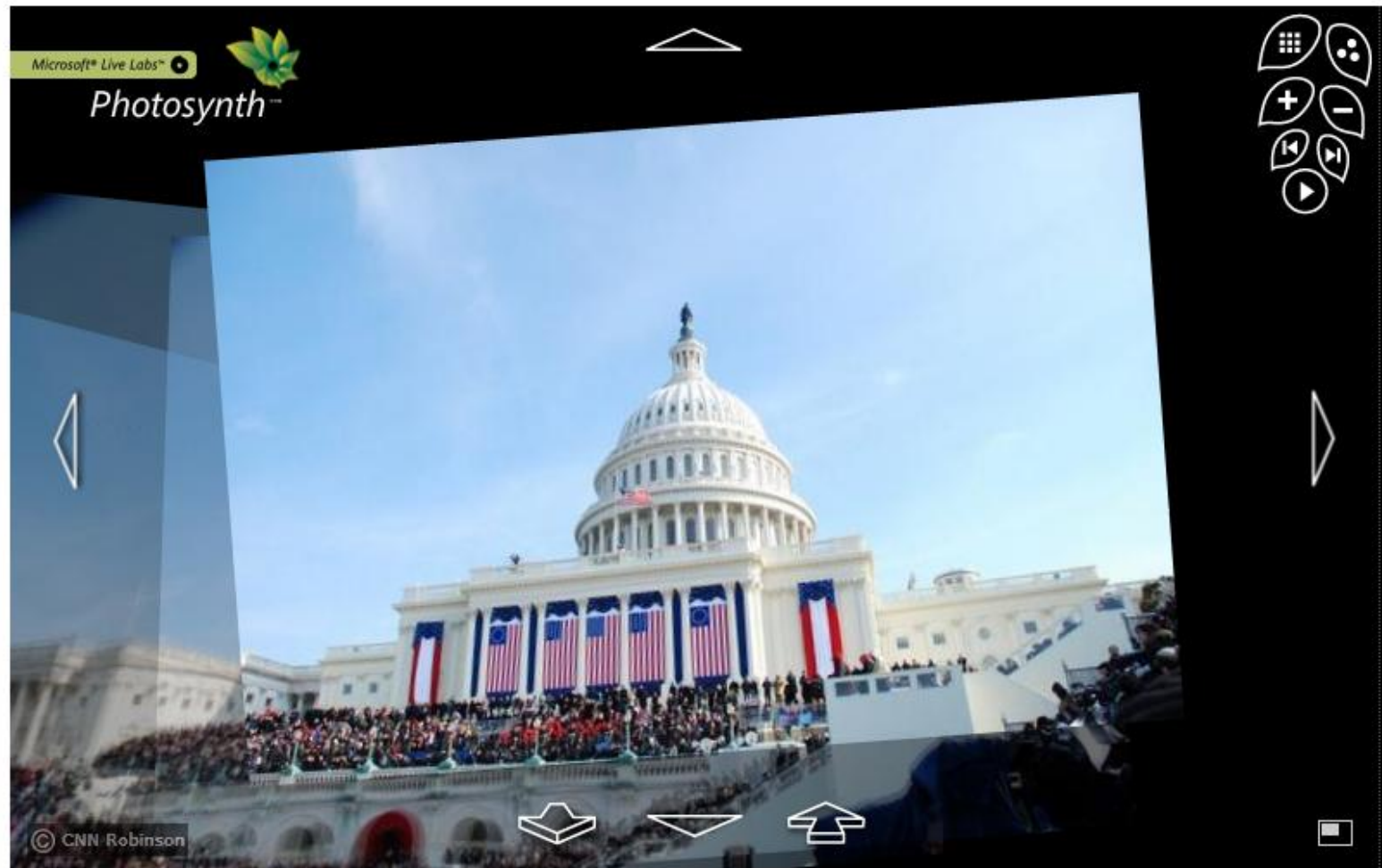
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Transition to Power

Inauguration

First 100 days

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like.com: image search for products

Given an image query of a product, find the closest products in shape, color, pattern.

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Your Search Item

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Which Aspect of this Item is Most Important?

Color Shape Pattern



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Google Goggles, Snaptell and others



And more applications in...

David Lowe's

Computer Vision Industry Compendium

<http://www.cs.ubc.ca/spider/lowe/vision.html>

