Advanced Topics in Computer Graphics and Vision

Fall Semester 2008

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Goals of the Seminar

- Get you acquainted with research in computer graphics and vision
- Improve your ability to critically read and analyze scientific papers
- Strengthen your presentation skills
- Stimulate active learning through group discussions, improve argumentation skills

What you have to do

- Present one paper in class
  - read the paper and necessary background material
  - prepare slides and give the presentation
  - lead the discussion in class
- Read the other papers before class
- Participate in the discussion
- Grading:
  - 75% presentation
  - 25% group discussion

What you have to do 2

- Talk duration: **30** minutes
  - Practice to be on time...

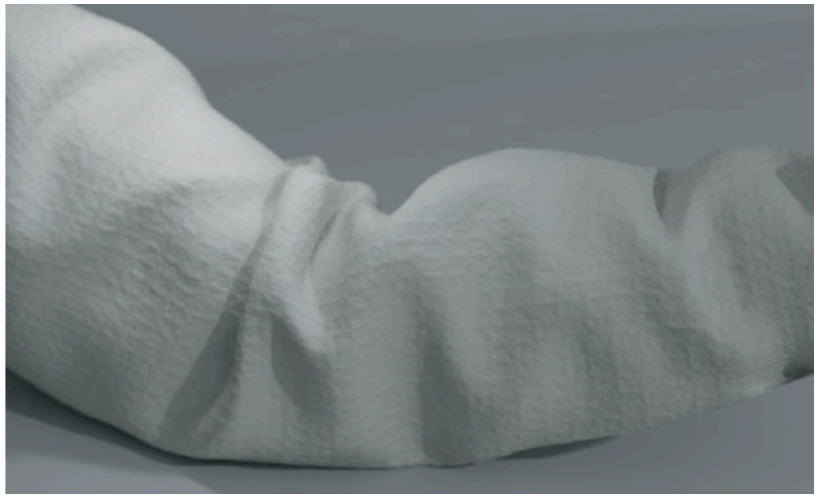
- One supervisor per topic:
  - Will help you with the preparations
  - Check talk a few days before
  - Discuss unclear points in the paper
  - List of supervisors will be available on the web

Topics

- Geometry and performance capture
- Texture synthesis
- Computational photography
- Video editing

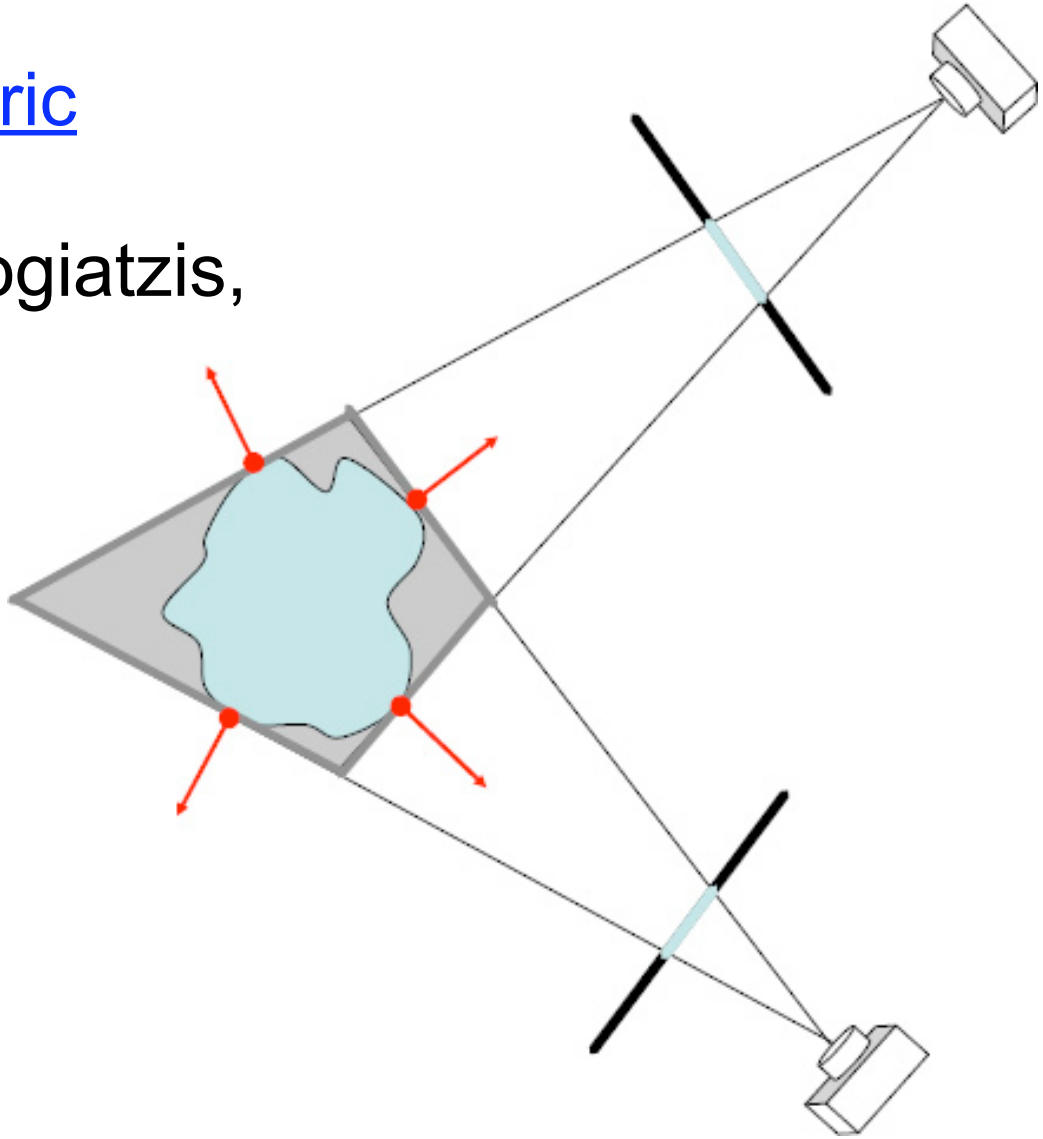
Sept. 25

- Capturing and Animating Occluded Cloth
  R. White, K. Crane, D. Forsyth
- SIGGRAPH 07



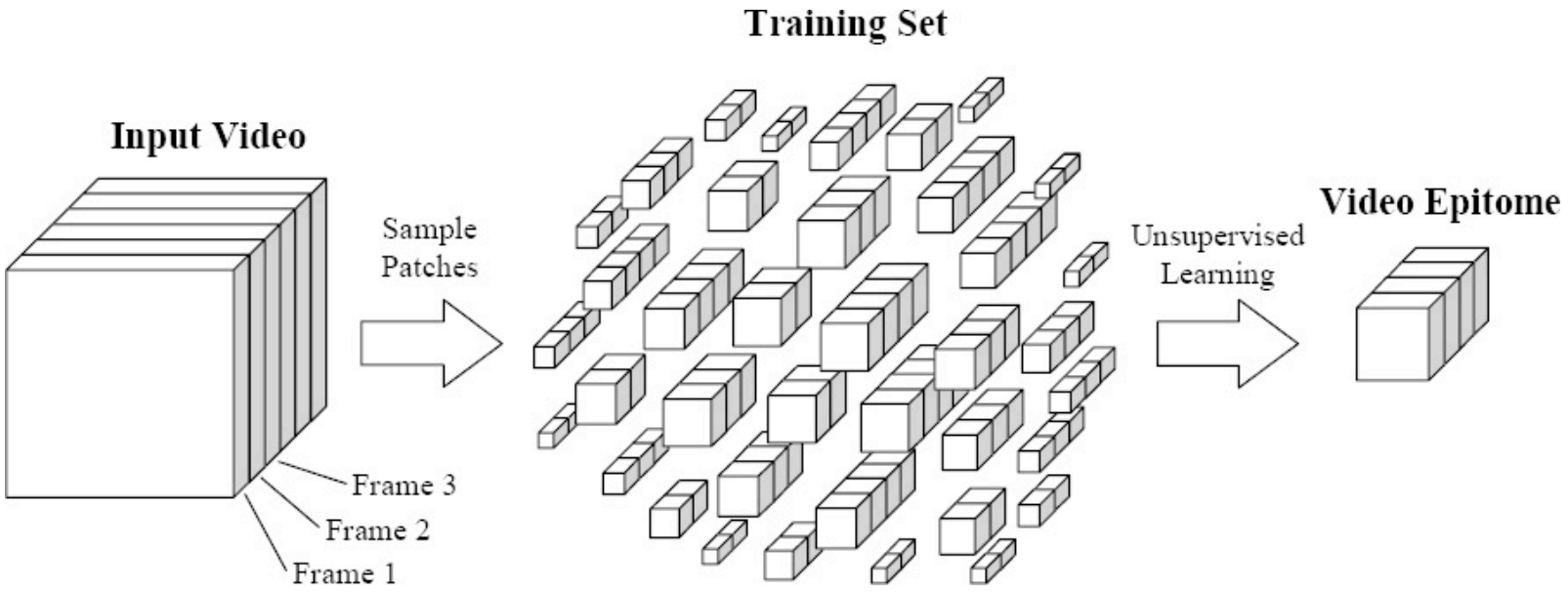
Oct. 2

- Multi-view Photometric Stereo
  C. Hernández, G. Vogiatzis, R. Cipolla
- PAMI 08



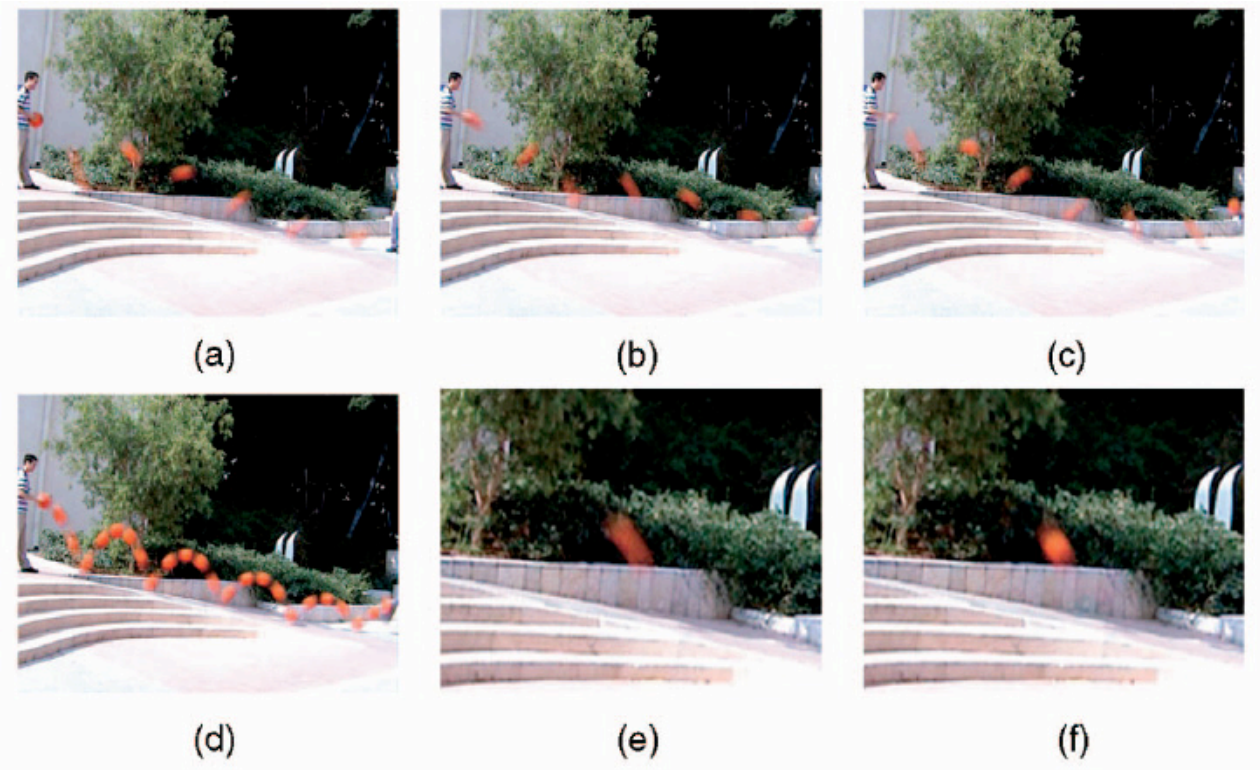
Oct. 9

- Video Epitomes
  V. Cheung, B. J. Frey, and N. Jojic
- CVPR 05



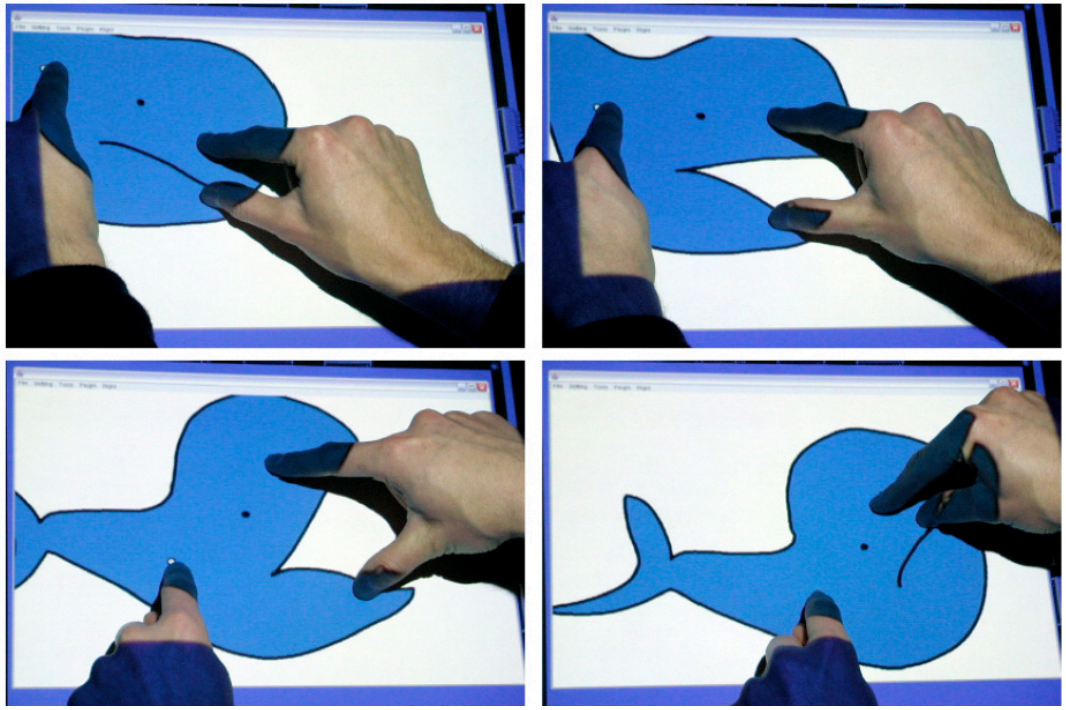
Oct. 16

- Space-Time Super-Resolution
  E. Shechtman, Y. Caspi and M. Irani
- PAMI 05



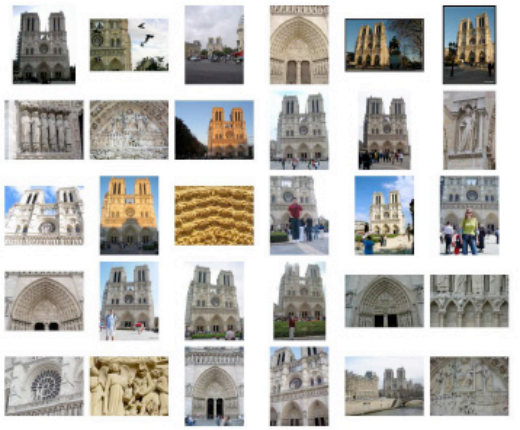
Oct. 23

- As-Rigid-As-Possible Shape Manipulation
  T. Igarashi, T. Moscovich, J. F. Hughes
- SIGGRAPH 05



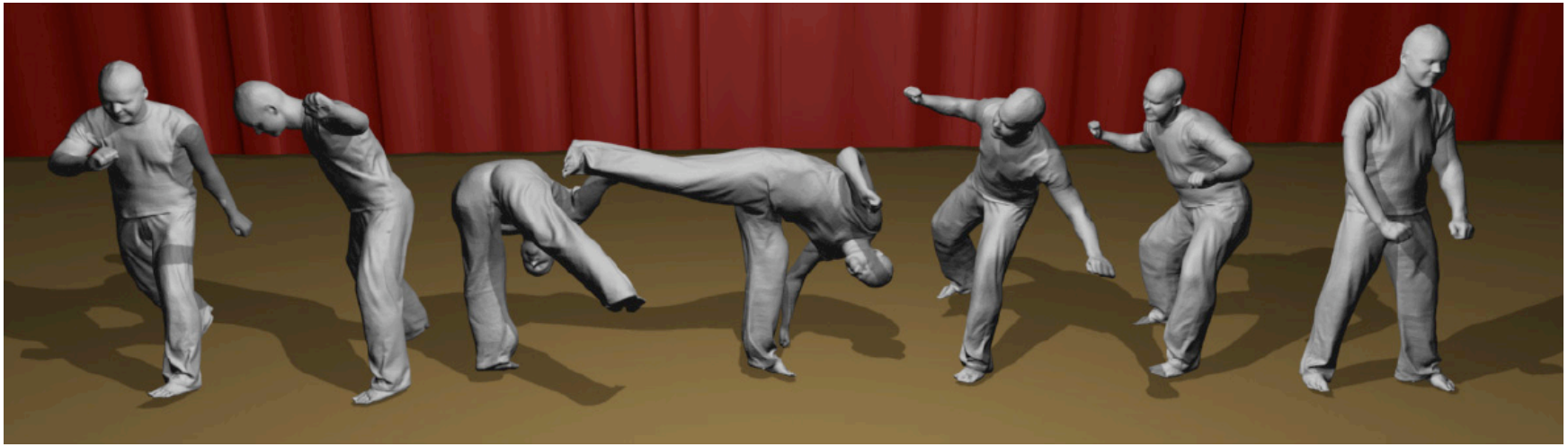
Oct. 30

- Photo Tourism
  N. Snavely, S. M. Seitz, R. Szeliski
- SIGGRAPH 06



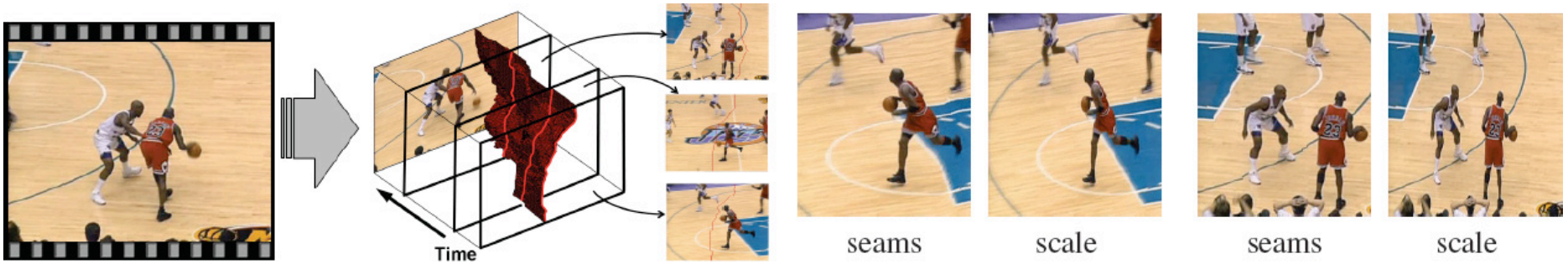
Nov. 6

- Performance Capture from Sparse Multi-view Video
  E. de Aguiar, C. Stoll, C. Theobalt, N. Ahmed,
  H.-P. Seidel, S. Thrun
- SIGGRAPH 08



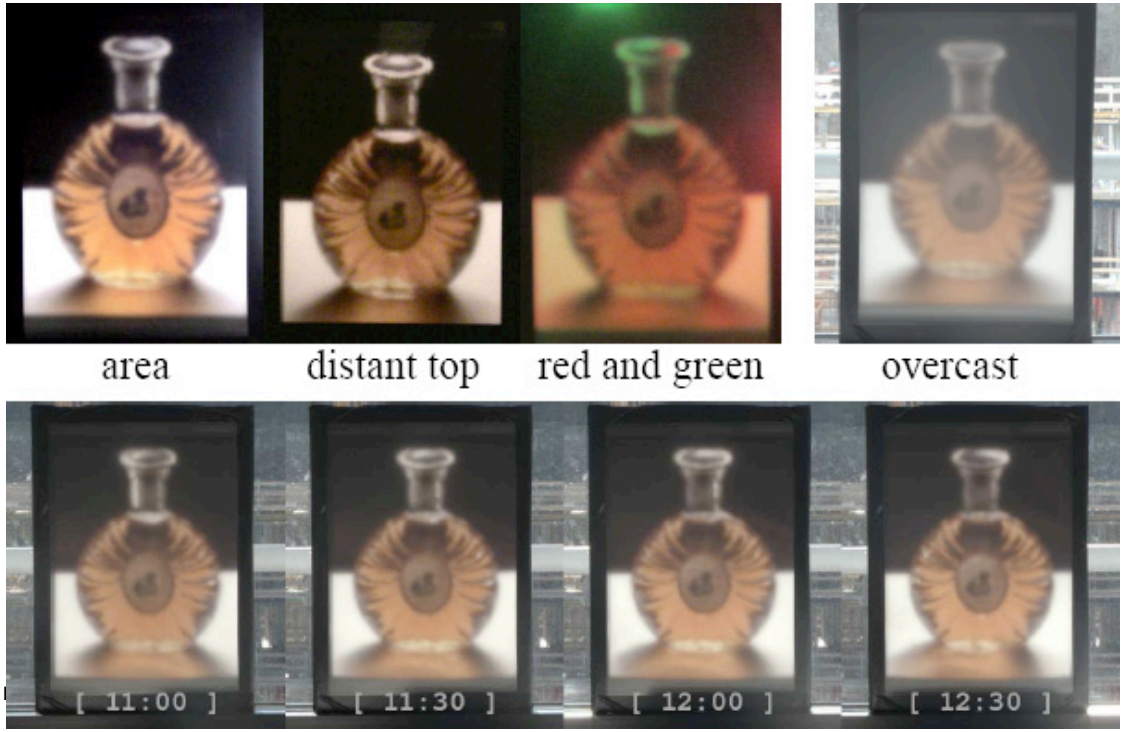
Nov. 13

- Improved Seam Carving for Video Retargeting
  M. Rubinstein, A. Shamir, S. Avidan
- SIGGRAPH 08



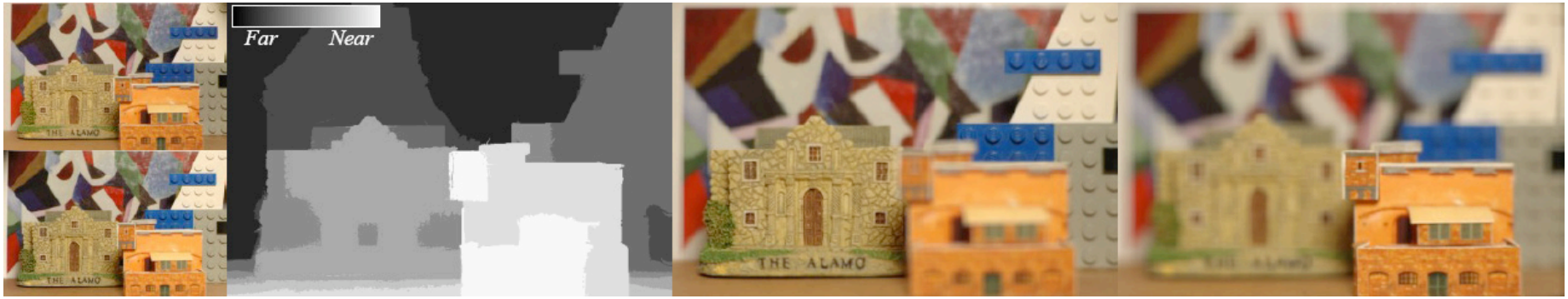
Nov. 20

- Towards Passive 6D Reflectance Field Displays
  M. Fuchs, R. Raskar, H.-P. Seidel, H. P. A. Lensch
- SIGGRAPH 08



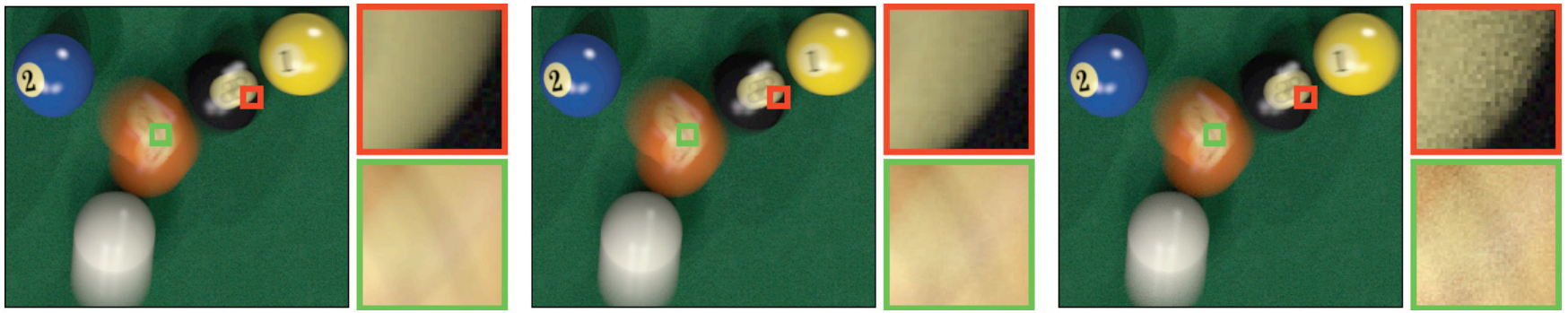
Nov. 27

- Programmable Aperture Photography
  C.-K. Liang, T.-H. Lin, B.-Y. Wong, C. Liu, H. Chen
- SIGGRAPH 08



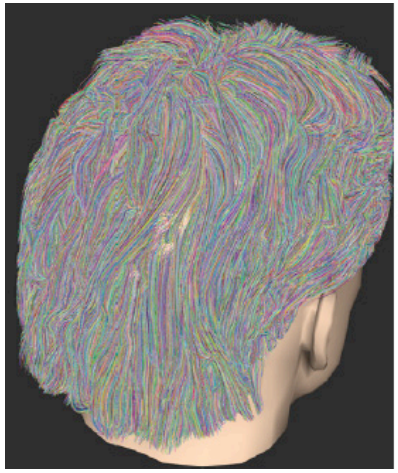
Dec. 4

- Multidimensional Adaptive Sampling and Reconstruction for Ray Tracing
  T. Hachisuka, W. Jarosz, R. Weistroffer, K. Dale, G. Humphreys, M. Zwicker, H. Wann Jensen
- SIGGRAPH 08



Dec. 11

- Hair Photobooth
  S. Paris, W. Chang, W. Jarosz, O. Kozhushnyan, W. Matusik, M. Zwicker, F. Durand
- SIGGRAPH 08

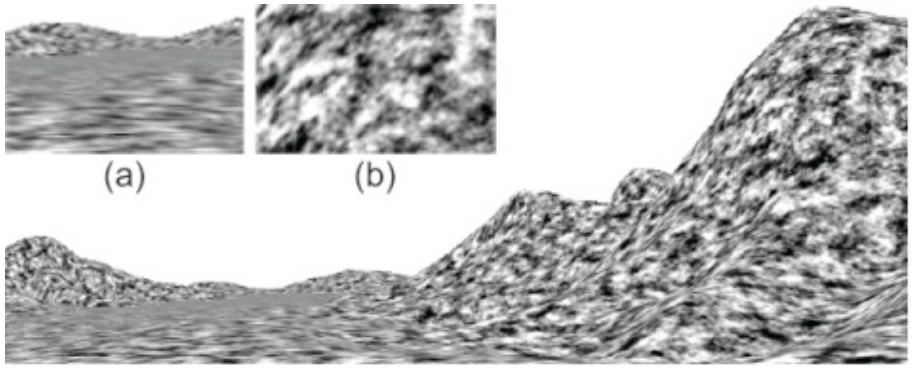



Dec. 18

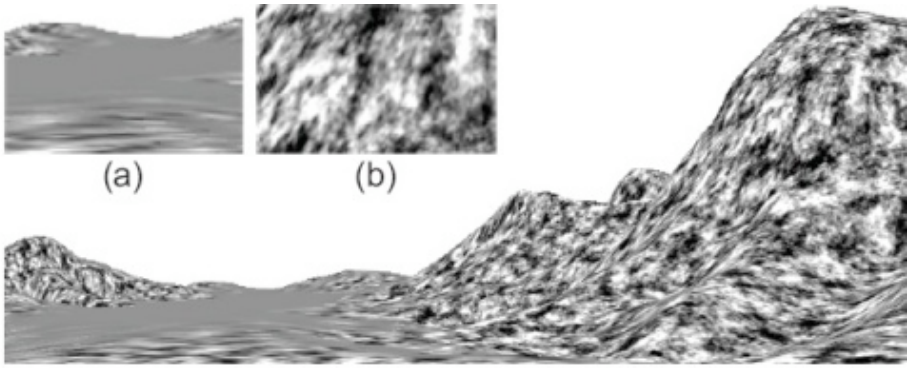
- Fluorescent Immersion Range Scanning
  M. B. Hullin, M. Fuchs, I. Ihrke, H.-P. Seidel, H. P. A. Lensch
- SIGGRAPH 08

(?)

- Anisotropic Noise
  A. Goldberg, M. Zwicker, F. Durand
- SIGGRAPH 08



Anisotropic noise



Isotropic filtering, no distortion compensation

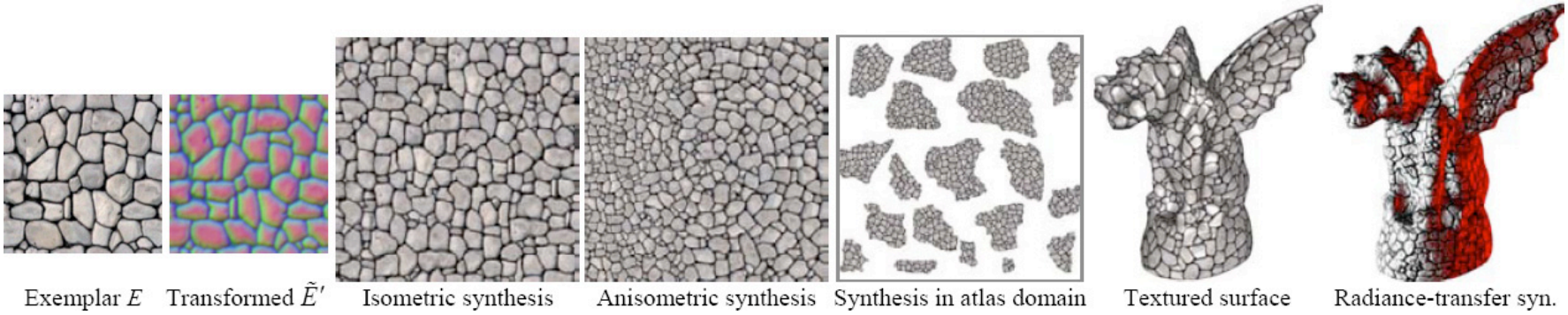
(?)

- Surface Depth Hallucination
  M. Glencross, G. J. Ward, C. Jay, J. Liu, F. Melendez,
  R. Hubbold
- SIGGRAPH 08



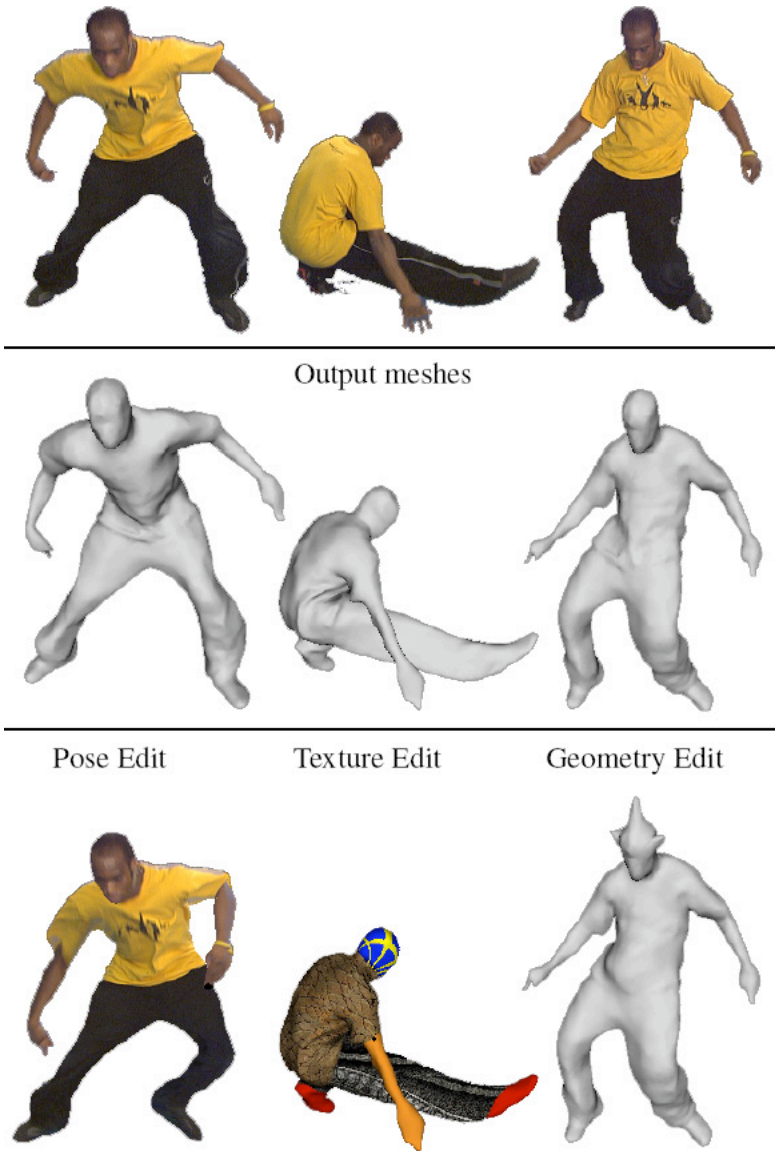
(?)

- Appearance-Space Texture Synthesis
  S. Lefebvre, H. Hoppe
- SIGGRAPH 06



(Nov. 6)

- Articulated Mesh Animation from Multi-view Silhouettes
  D. Vlasic, I. Baran,
  W. Matusik, J. Popovic
- SIGGRAPH 08



Some Remarks

- Goal of your presentation:
  - **Impart knowledge to the audience**
  - (not show off that you understood the paper)

Preparation

- Read the paper and background material
- Make sure you understand the subject
  - talk to assistant or contact authors if questions remain
- Think about potential visual aids, e.g., demos, videos, etc.
- Consider other material, e.g., handouts

Structure your talk

- Introduction
  - general context, motivation, problem statement
- Contents of the paper
  - core points of the paper, key contributions, relevant results, relation to other work
- Discussion
  - evaluate the paper from your own perspective
  - discuss pros and cons, talk about your own ideas for future work

Get your message across

- Stress the important points
  - “Tell'em what you are going to tell'em. Tell'em. Then tell'em what you told'em.”
- Consider your audience
  - what prior knowledge can you expect?
  - how can you make sure people will be able to follow your presentation?

The Talk

- Practice your talk!
  - get feedback from others or use video camera
  - check the timing
- Talk to the audience not to the screen
- Talk clearly, not too slow or too hasty
- Give the audience time to understand what you tell them

Things to avoid

- Exceed the time limit
- Never practice the talk
- Lose yourself in detailed, confusing explanations
- Too many slides, equations, too many bullets
- Fonts too small, too much text
- Discontinuous speech
- Ignore the audience

Some quotes

- “Before I speak, I have something important to say.” -Groucho Marx

see:http://www.erp.wisc.edu/profdev/Scientifically_speaking.pdf

Some quotes

- “A speech is a solemn responsibility. The man who makes a bad speech to two hundred people wastes only half an hour of his own time. But he wastes one hundred hours of the audience’s time - more than four days - which should be a hanging offense” - Jenkin Lloyd Jones

see:http://www.erp.wisc.edu/profdev/Scientifically_speaking.pdf

Some quotes

- “ I’m rather like a mosquito in a nudist camp: I know what I ought to do, but don’t know where to begin.” -Stephen Bayne

see:http://www.erp.wisc.edu/profdev/Scientifically_speaking.pdf

Some quotes

- “Be sincere; be brief; be seated.” - Franklin D. Roosevelt

see:http://www.erp.wisc.edu/profdev/Scientifically_speaking.pdf

Some quotes

- “Many attempts to communicate are nullified by saying too much.” – Robert Greenleaf

see:http://www.erp.wisc.edu/profdev/Scientifically_speaking.pdf

Some quotes

- “The human brain starts working the moment you are born and never stops until you stand up to speak in public.” - George Jessel

see:http://www.erp.wisc.edu/profdev/Scientifically_speaking.pdf

Some quotes

- “In science as in love, too much concentration on technique can often lead to impotence.” -P.L. Berger, Sociologist and author

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