computer graphics research at UVa (act one)

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9/10/2007
computer graphics
computer graphics

- imaging
- modeling
- rendering
- animation
applications

- entertainment
- computer-aided design
- scientific visualization
- training
- education
- e-commerce
- art
image courtesy
Gunther et al.
computer graphics

- imaging
- **modeling**
- rendering
- animation
key question: how do we **specify** the input?
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analytic approach

\[ f_r(\vec{V}, \vec{L}) = \frac{k_d}{\pi} \]
analytic approach

\[ f_r(\vec{V}, \vec{L}) = \frac{k_d}{\pi} + k_s \vec{H}_z^\alpha \]
analytic approach

\[ f_r(\vec{V}, \vec{L}) = ? \]
data-driven approach
data-driven approach

\[ f_r(\vec{V}, \vec{L}) = \vec{V} \]
data-driven appearance models
research projects

- material models:
  - measurement
  - representation
  - editing/authoring
research projects

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research projects

- material representation:
  - compression
  - rendering

2,000 Images
5.5 GB
research projects

• material representation:
  • compression
  • rendering

Our Method
16 Samples/Pixel

Lafortune
16 Samples/Pixel

Our Method
16 Samples/Pixel
research projects
inverse shade trees

Scotch Tape  Dark Grain  Light Grain  Red Bicycle  White Bicycle
details

• interested in hiring one Ph.D. student
• olsson 212
• gLunch Fridays from 12:30-1:30
• gfx@cs.virginia.edu
• Greg Humphreys other graphics faculty