

# Volume Graphics Group Seminar, November 3, 2004



Matúš Straka



AUSTRIAN ACADEMY OF SCIENCES

ÖSTERREICHISCHE AKADEMIE DER WISSENSCHAFTEN

# Texas, USA



# Austin, Texas



# Hyatt Regency Hotel

20  
**VIS**04  
austin, texas  
October 10-15



# IEEE Visualization 2004

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- √ InfoVis, VolVis and Vis Conference
- √ 700+ participants
- √ Organized by University of Texas, Austin
- √ Papers:
  - » 44 research papers
  - » 24 application papers
  - » 9 contributions from Vienna
  - » 3 Slovak contributions (Viola, Mlejnek, Straka)
  - » 2 AngioVis contributions (100% accepted)

# Vis04 Papers

- ✓ Capstone Speaker:

- » Pat Hanrahan (Stanford University): *Self Illustrating Phenomena*



- ✓ Best Paper:

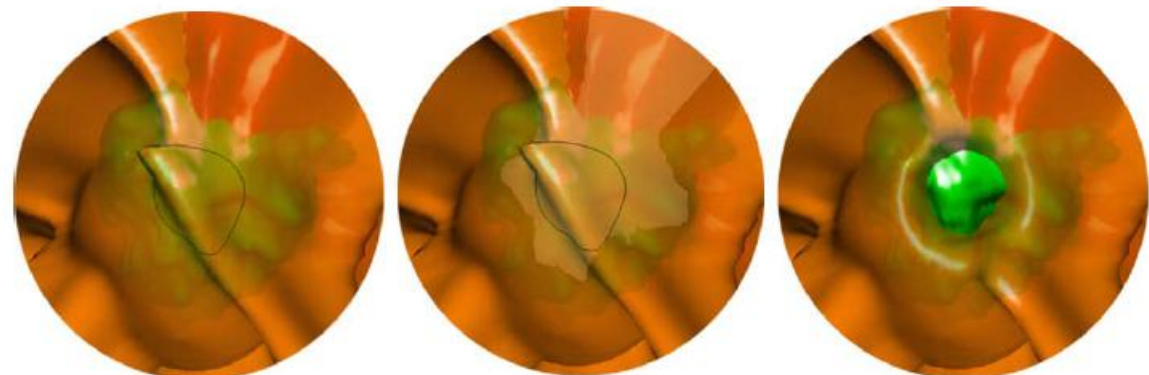
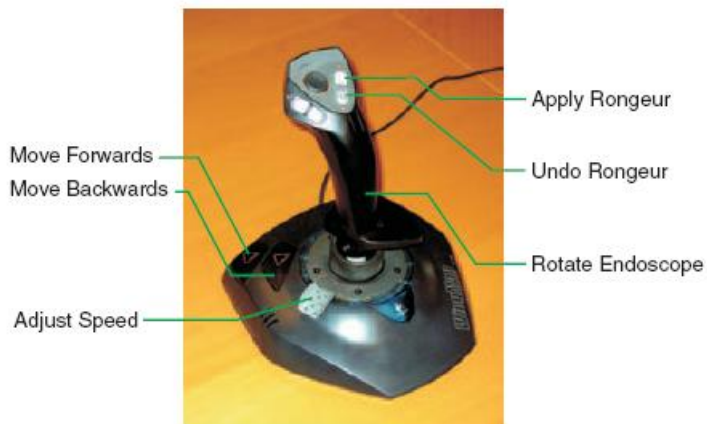
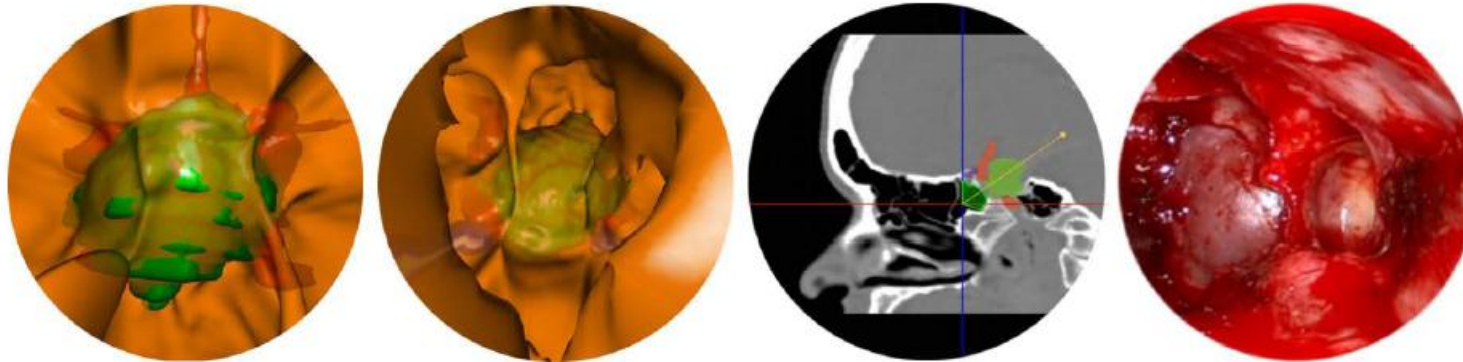
- » Lok M. Hwa (UC Davis), Mark A. Duchaineau (Lawrence Livermore National Lab), and Kenneth I. Joy (UC Davis): *Adaptive 4-8 Texture Hierarchies*



- ✓ Best Application Paper:

- » Andre Neubauer, VRVis, Vienna
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# Andre Neubaer - STEPS - an Application for Simulation of Transsphenoidal Endonasal Pituitary Surgery



# Vis Contest

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- √ Some papers about molecules, molecular complexes, DNA, proteins, chemicals
  - » Rendering of overlapping spheres, helicals, cylinders
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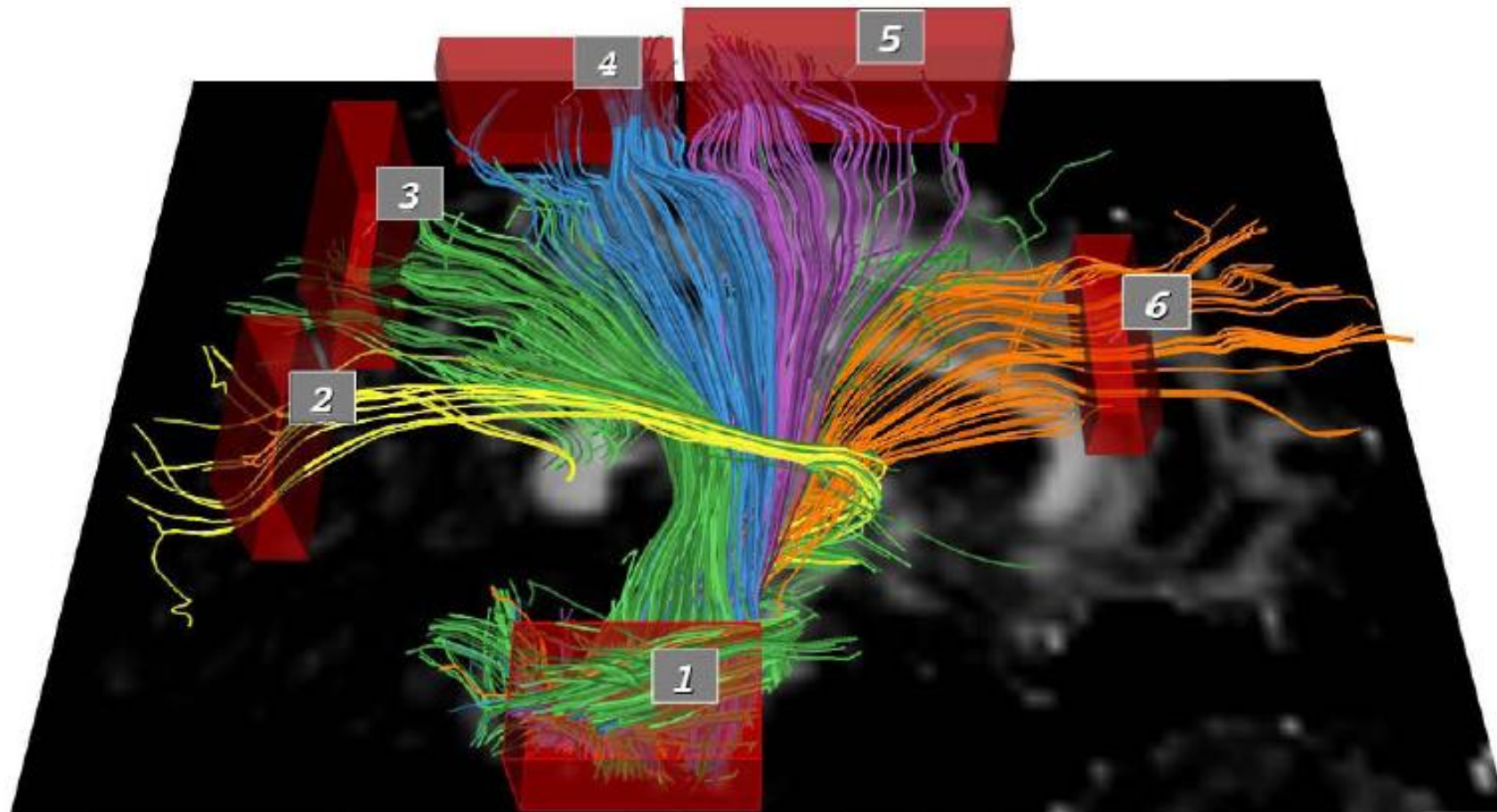
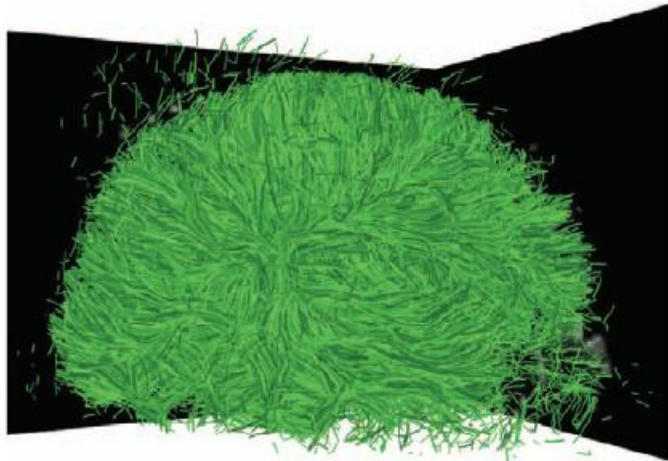


Figure 1: The corona radiata. Our system uses dynamic queries to find structure in neural pathways suggested by MR tractography.

## Diffusion Tensor Imaging

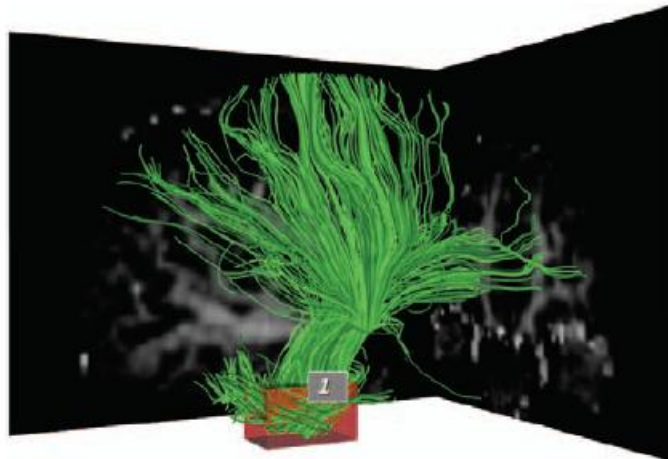
# Akers, Sherbondy/Stanford



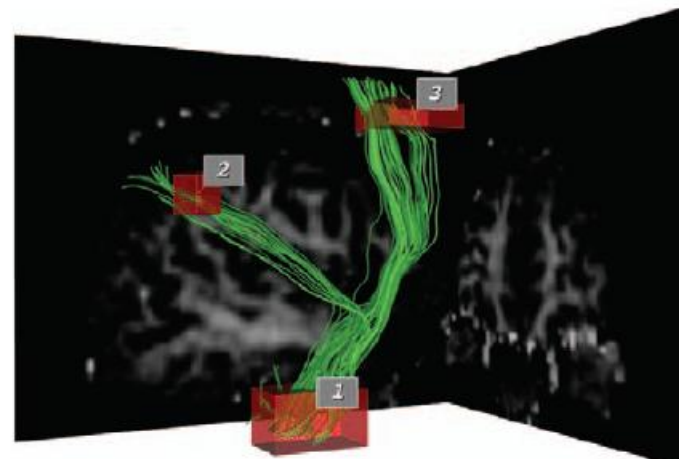
(a)



(b)



(c)



(d)

# Nielson/Dual Marching Cubes

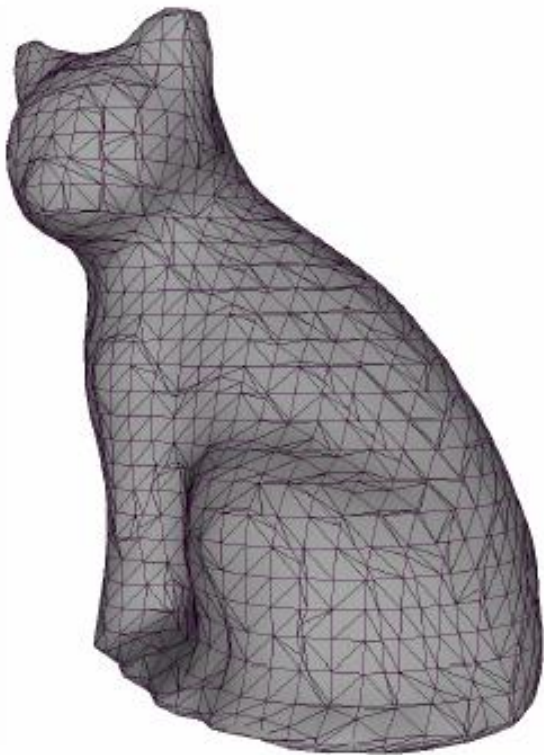
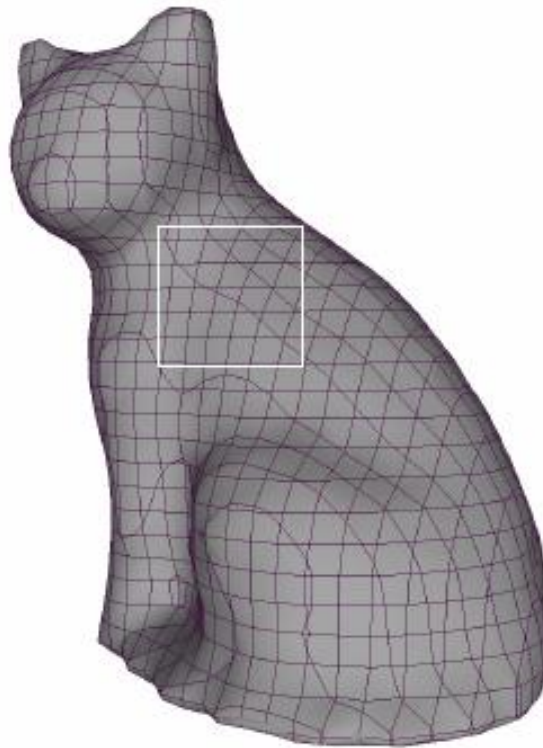
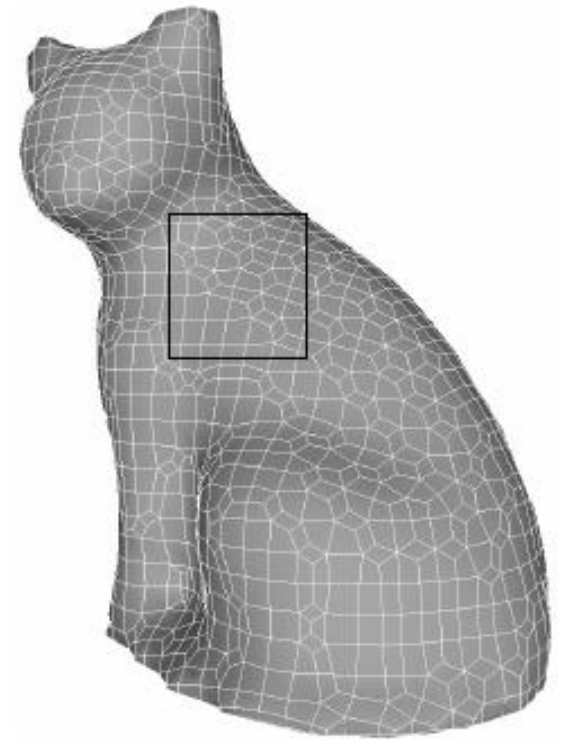


Figure 1. March Cubes Surface

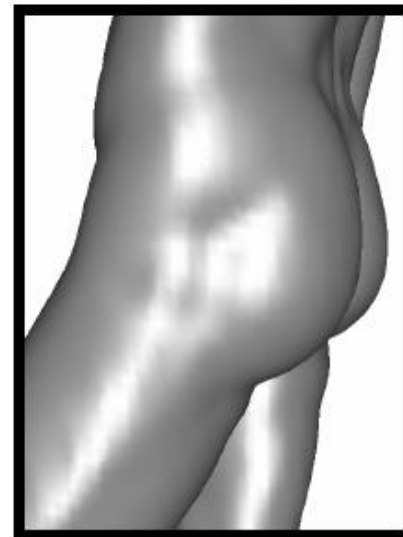
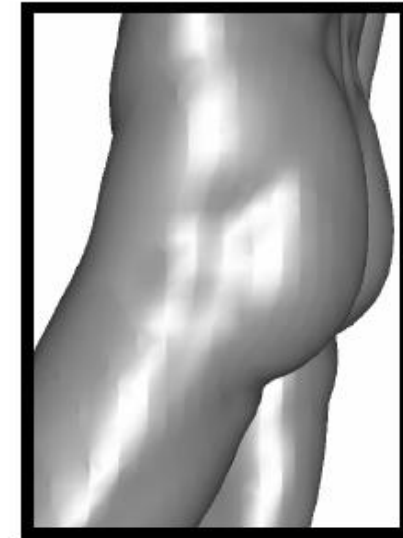
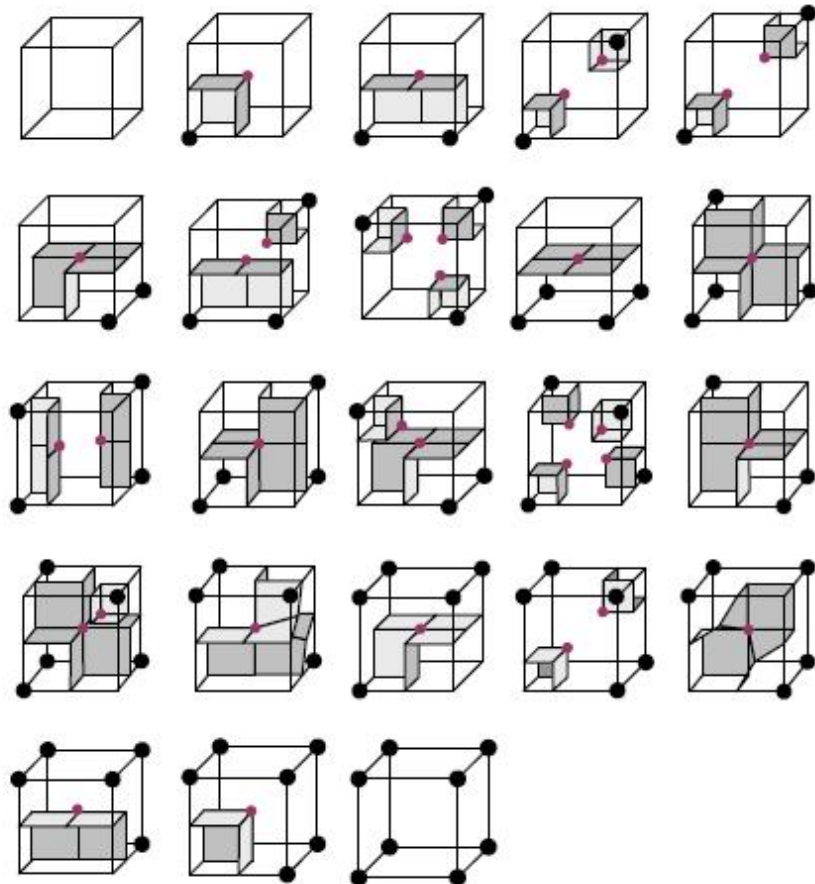


MC-Patch surface,  $S$

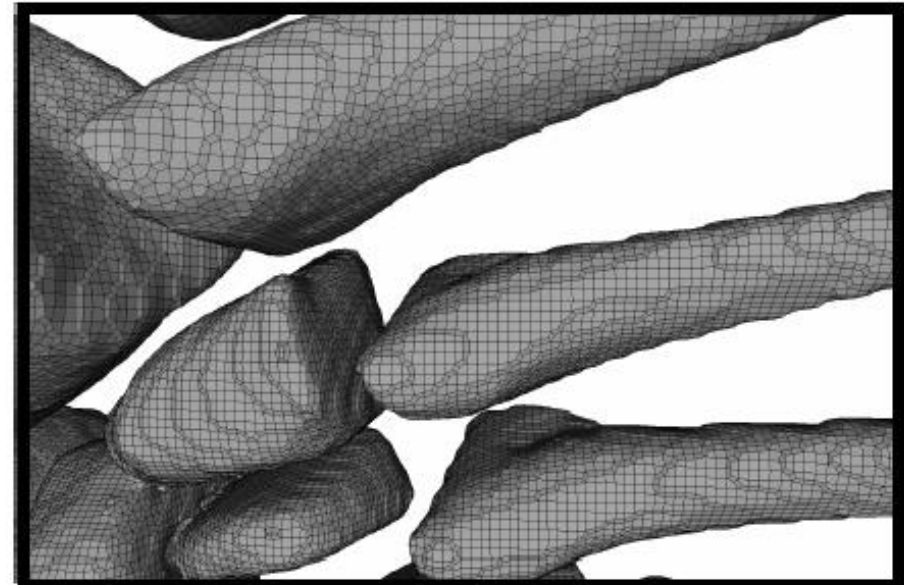
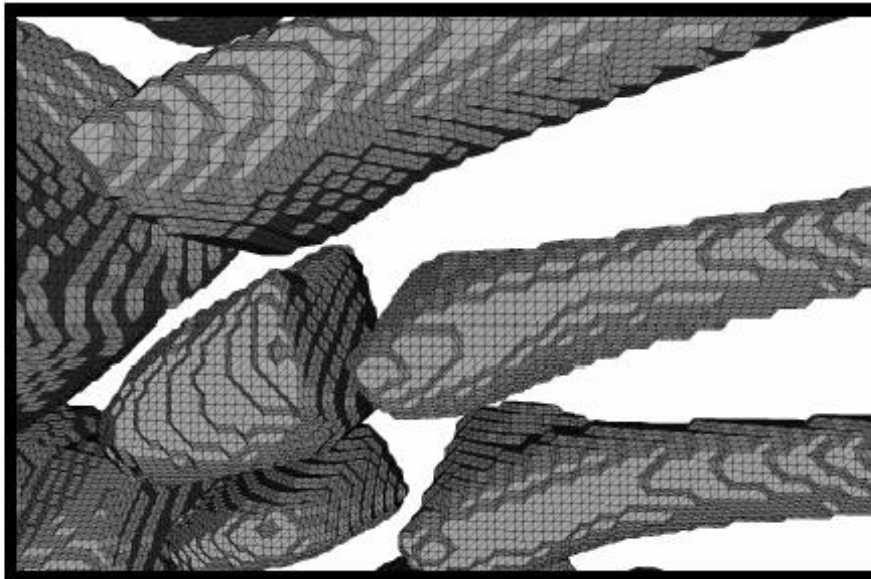


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# Dual Marching Cubes



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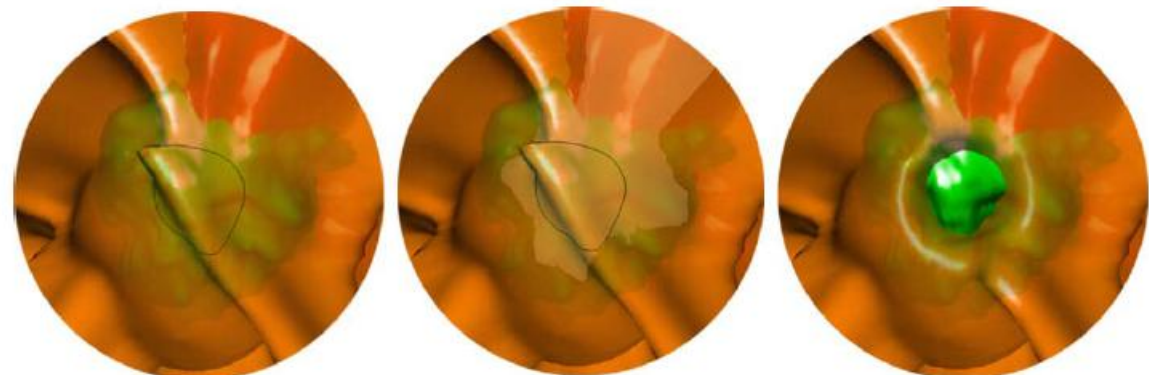
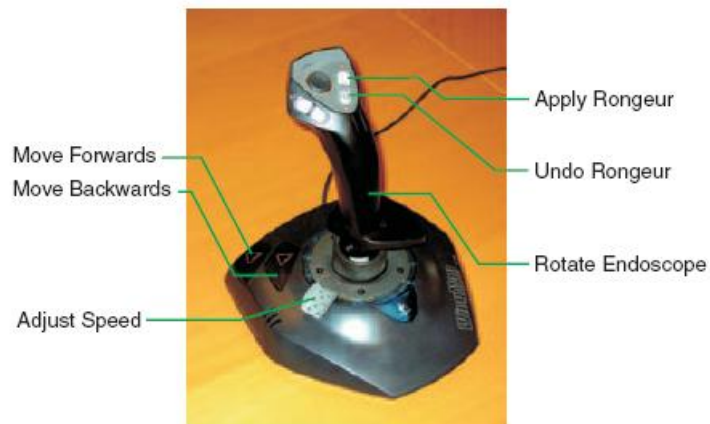
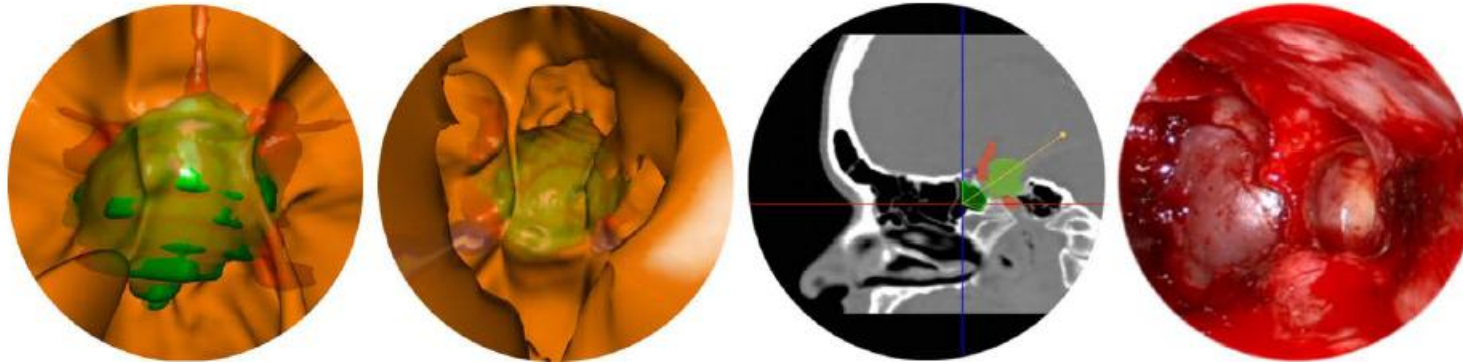
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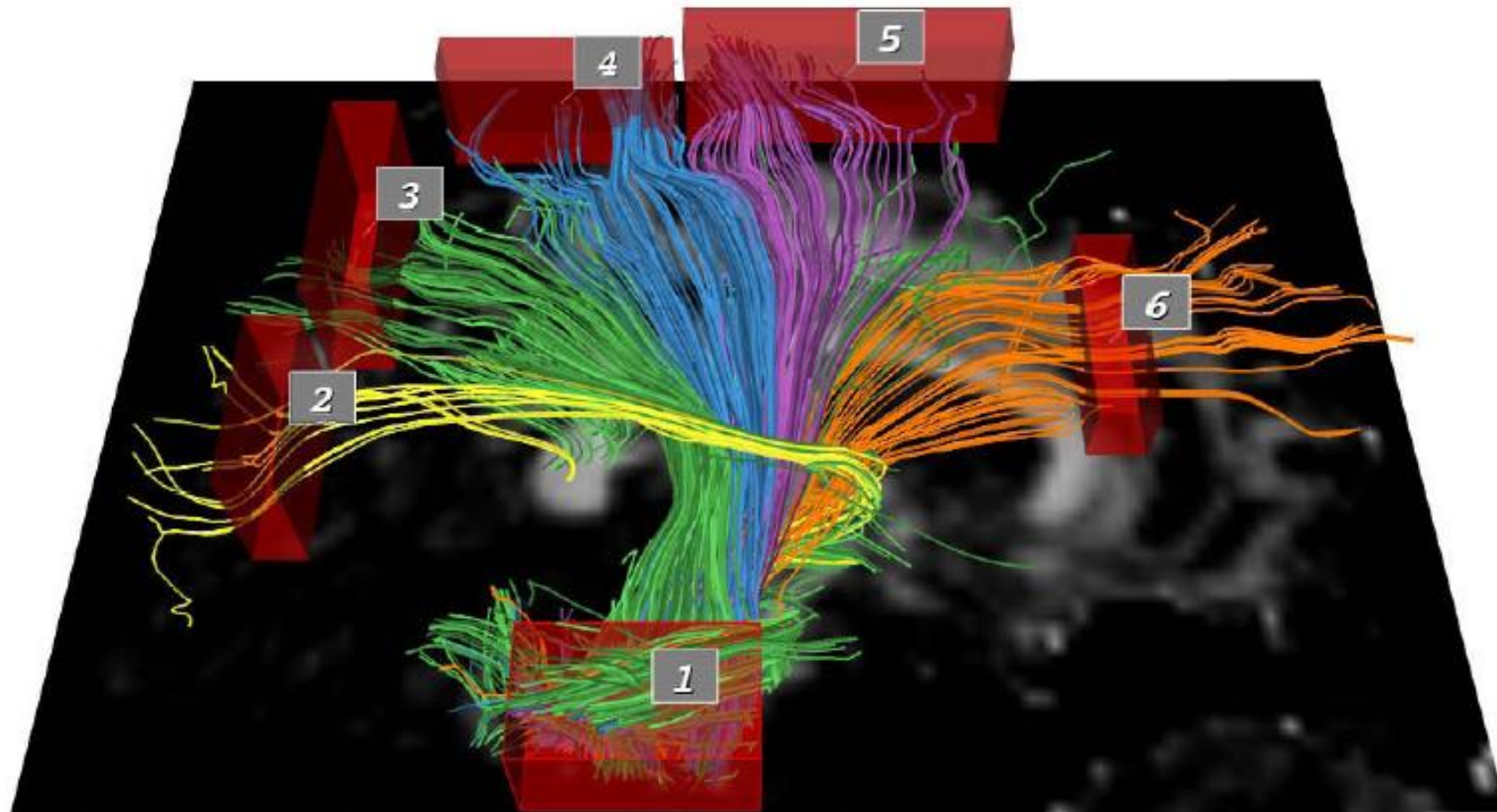
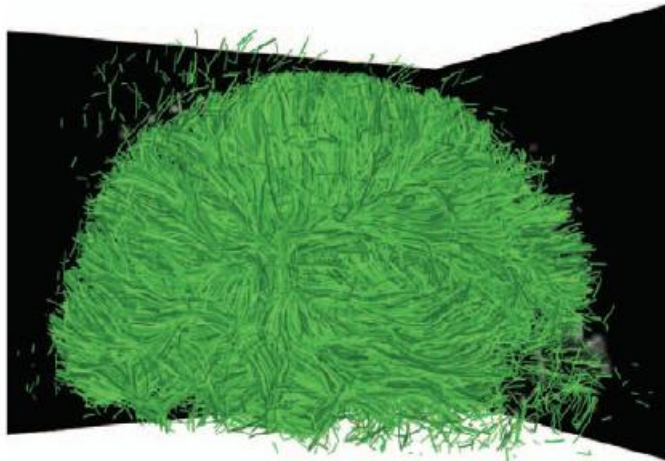


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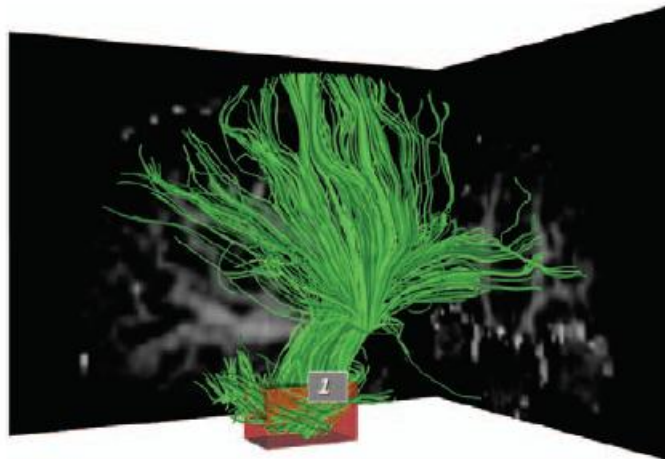
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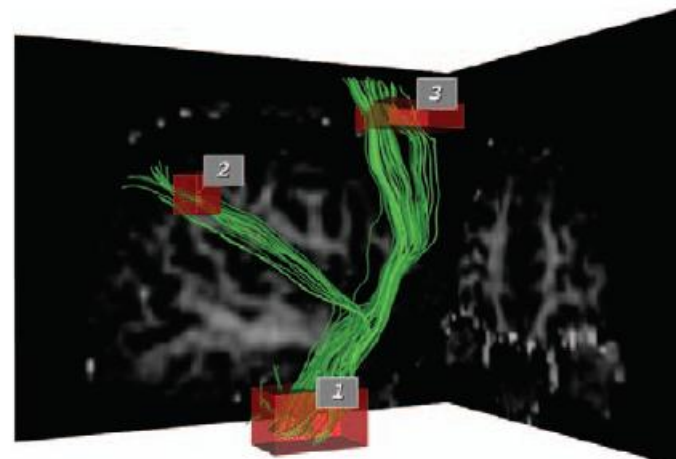
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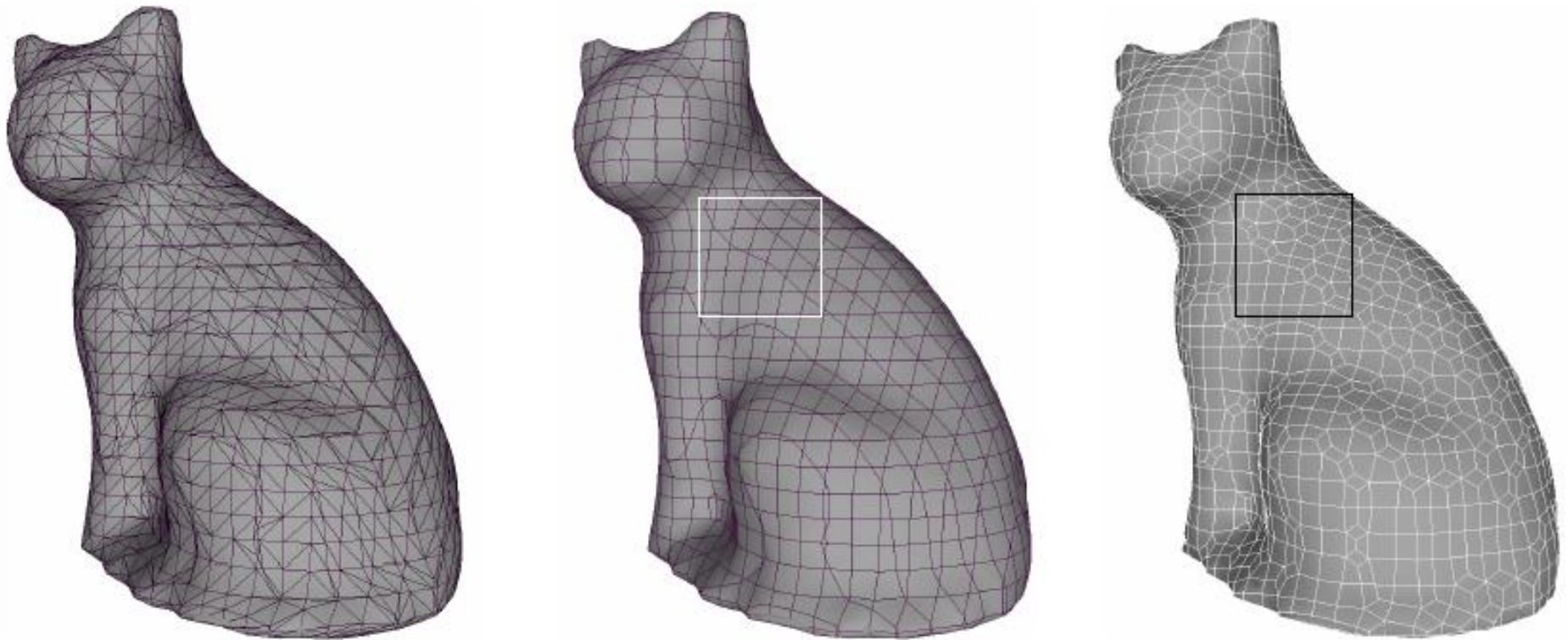
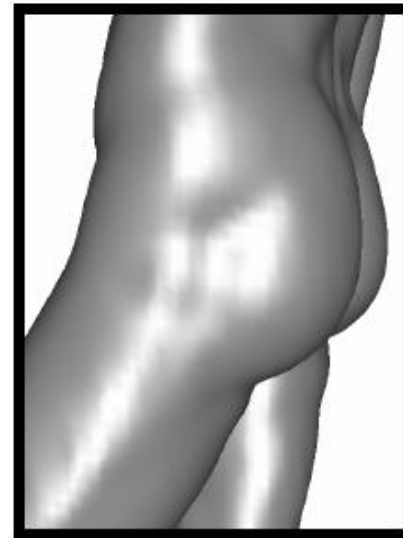
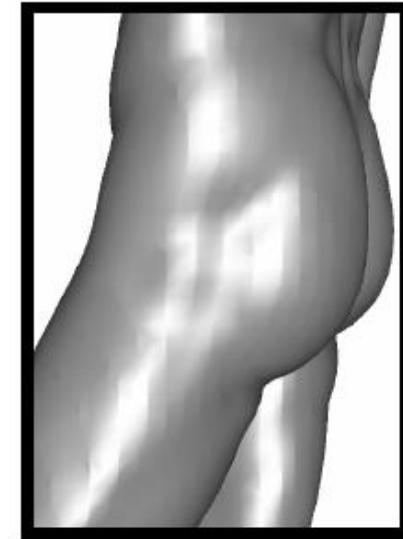
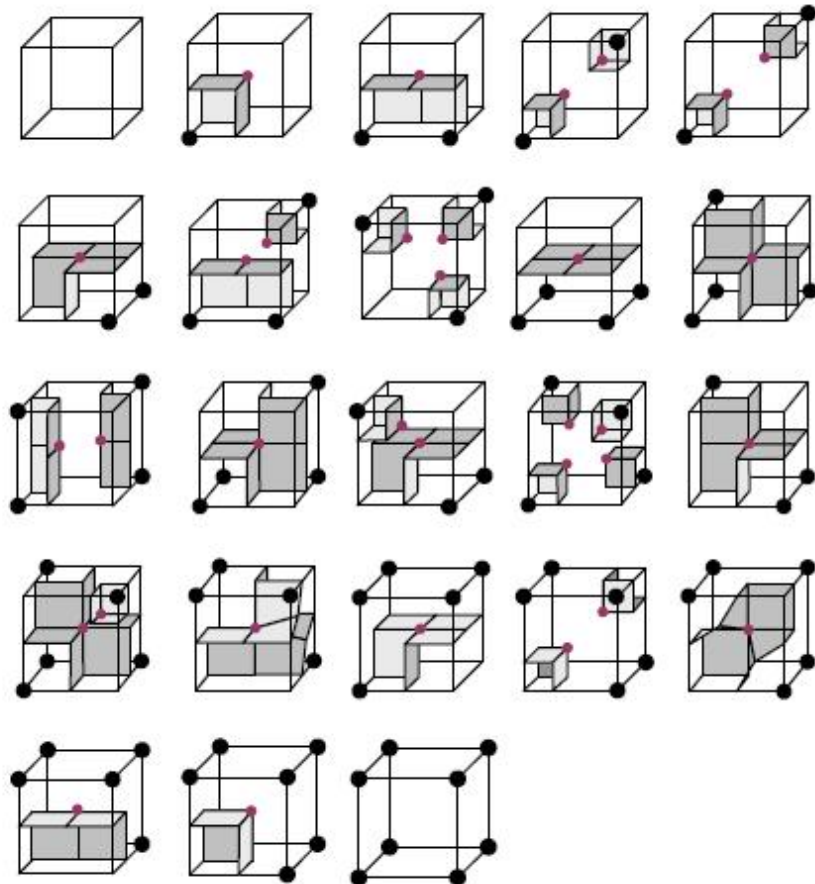


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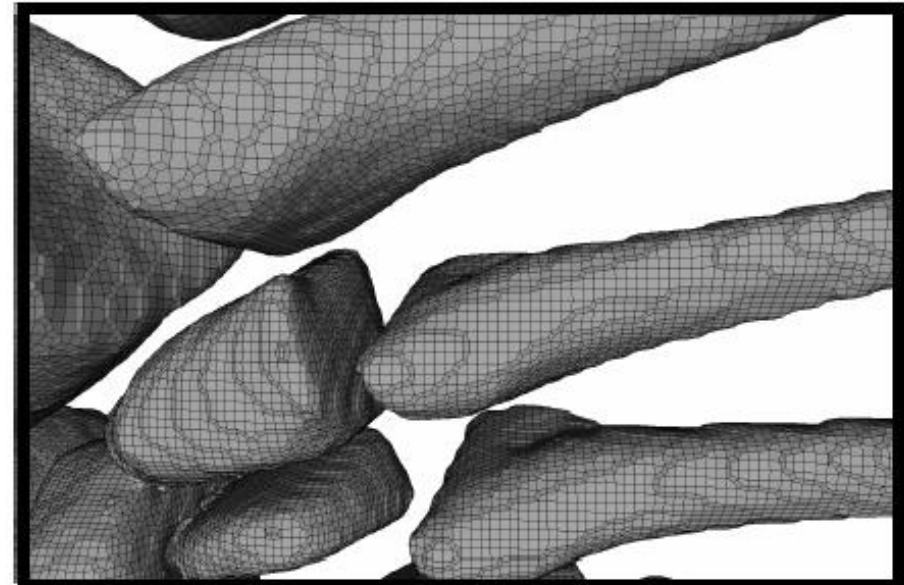
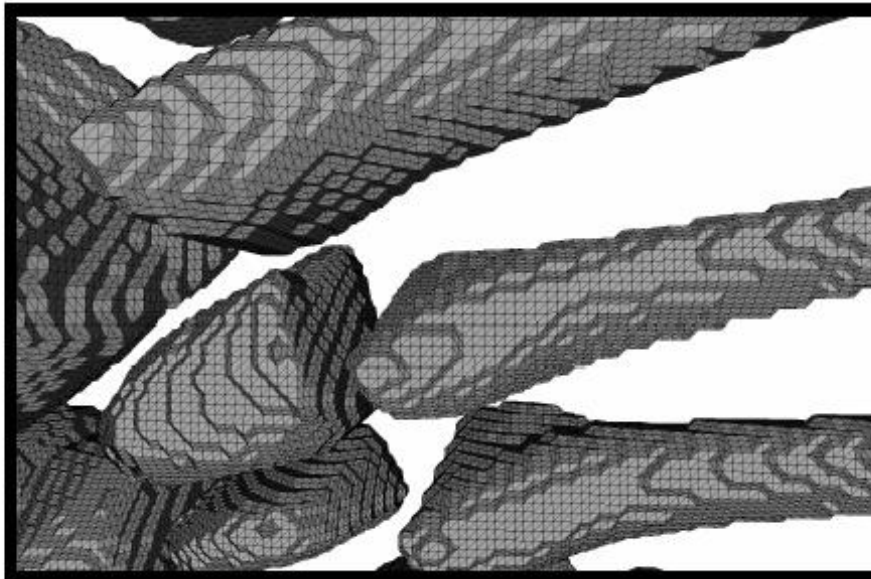
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