

# **CSE 199 Cinematic Renderer**

*Nick Nebel*

# New Features: config files + cmd line interface

Reading yaml config files with this format:

```
name: new
volume:
  pos: [0.0, 0.0, 0.0]
  scale: [1.0, 1.0, 1.0]
  rotation: [0.9727135, 0.018041437, 0.23130894, 0.0, -0.0011439843, 0.9973326, -0.07297787,
    0.0, -0.23200823, 0.07072184, 0.9701394, 0.0, 0.0, 0.0, 0.0, 1.0]
camera:
  pos: [0.0, 0.0, 3.0]
  up: [0.0, 1.0, 0.0]
  center: [0.0, 0.0, 2.0]
render mode: Texture-based
transfer function:
  contrast: [0.4, 0.6]
  opacity:
    - [1.0, 0.8, 1.0, 0.0, 1.5]
  gradient: [[0.9, 0.0, 0.0], [1.0, 0.8, 0.0]]
  color scheme: RGB-gradient
cubemap: studio1
itrs: 0
```

# New Features: VCT

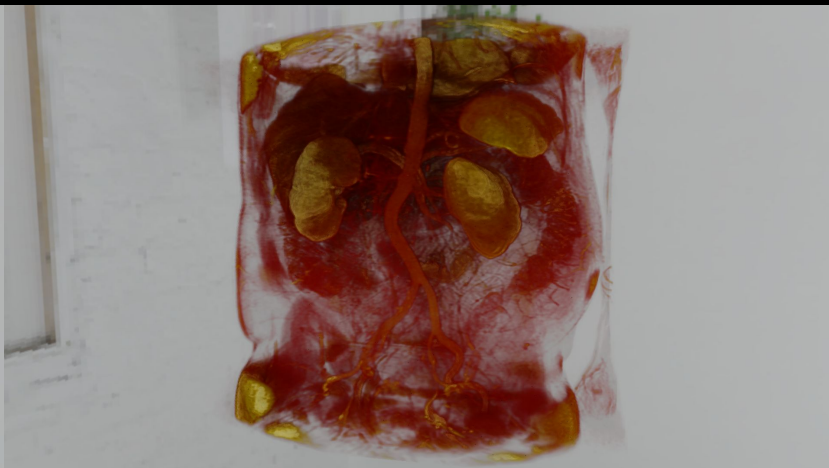
Voxel cone tracing + direct-only lighting

Clearcoat ray calculations optimized with cross-warp scheduling

Old: 1000 samples, 54.022615s



New: 1000 samples, 3.972679s



# New Features: VCT

Voxel cone tracing + direct-only lighting

One issue: mipmapping the volume takes up a lot of memory so some of the larger scans can't be loaded

Just discovered this today, one solution could be to use sparse voxel octrees

