



Computer Graphics

# Project 2 Requirements

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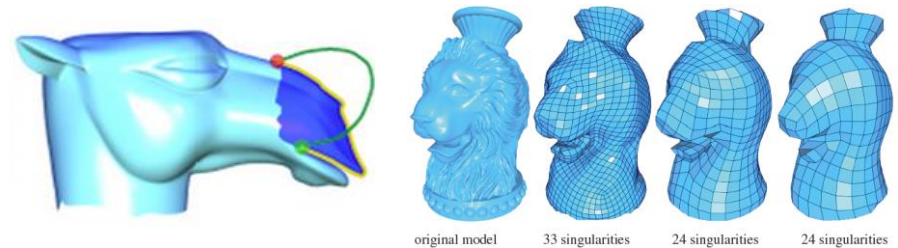
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School of Data and Computer Science



# CG Topics

- You can choose an interesting CG topic as the Project 2 achievement.
- including but not limited to:
  - Mesh Processing
  - Shape Analysis
  - Image Manipulation
  - Media Enhancement
  - Video Editing
  - Realistic & NPR Graphics
  - Games & Simulation



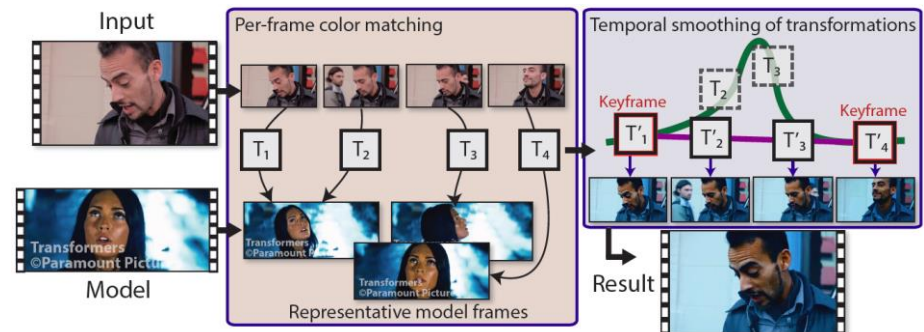
Bas-Relief (506K vertices / 5 FPS)



Sappho (113K vertices / 17 FPS)



Piano (195K vertices / 14 FPS)



# Range

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- For academic topics
  - No earlier than 2012 year
  - Published in Conference: SIGGRAPH, SIGGRAPH Asia, Eurographics
  - Published in Journal: ACM TOG, IEEE TVCG
  - No full codes (just demo program is OK)
- For industrial topics
  - Do not use CUDA, OpenGL, DirectX or other toolkit samples.
  - Do not use the whole open source project without any new improvements.



# Submission Requirements

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- All source codes and datasets
- Executable files (e.g C++ program) or scripts (e.g. MATLAB M-files, Python script)
- Presentation slides (.pptx or .ppt format)
- Instruction for the program and screenshots (.docx document)
- Use screen recorder to record the manipulation for your work
- **Deadline: Before 2016-07-10 24:00**



# Assistant Tools

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- LIBIGL: A C++ Library for Geometry Processing without a Mesh Data Structure
  - <http://libigl.github.io/libigl/tutorial/tutorial.html>
- MATLAB 2015a or later (self-contained)
  - Image Processing Toolbox <http://cn.mathworks.com/products/image/>
  - Statistics and Machine Learning Toolbox <http://cn.mathworks.com/products/statistics/>
  - Optimization Toolbox <http://cn.mathworks.com/products/optimization/>
  - Computer Vision System Toolbox <http://cn.mathworks.com/products/computer-vision/>
- Geometric Tools Engine
  - <http://www.geometrictools.com/index.html>
- NVIDIA CUDA Toolkit 7.5
  - <https://developer.nvidia.com/cuda-downloads>
- The Numerical Tours of Signal Processing
  - Lots of samples in MATLAB, Python <http://www.numerical-tours.com/>

