Computer Graphics -Applications

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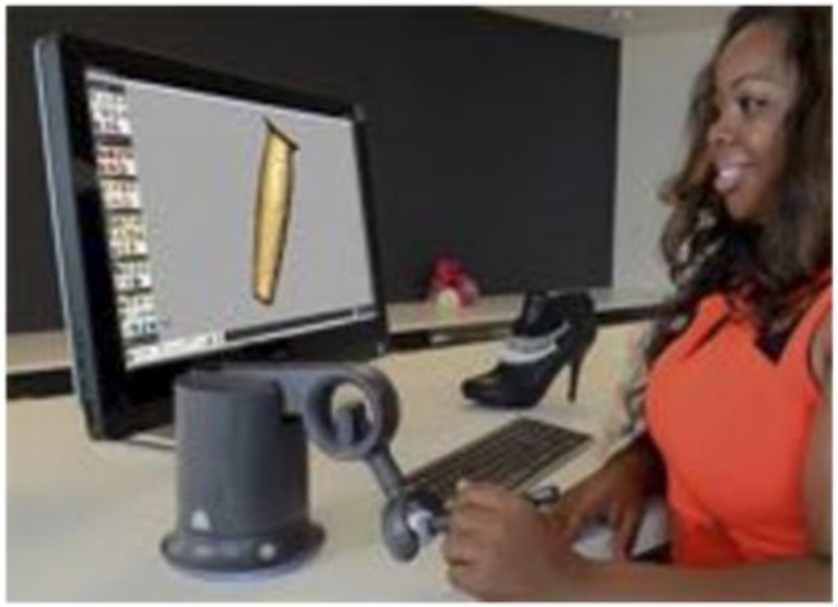
http://jjcao.github.io/ComputerGraphics/

What is computer graphics?

- The use of computers to synthesize and manipulate **visual information**.

- The use of computers to synthesize and manipulate **sensory information**.

(sound)



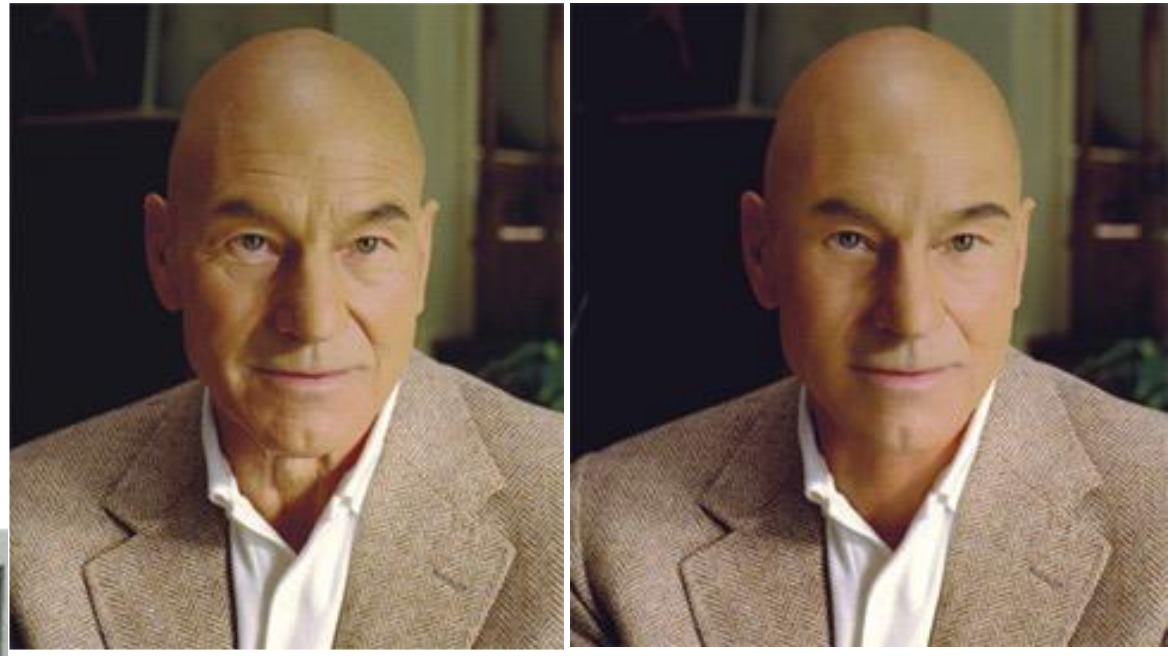
(touch)

Computer graphics is everywhere!

Entertainment (movies, games)

Entertainment

- **Not just cartoons!**



Home Entertainment

Training / Simulation; VR & AR; Human Computer Interfaces

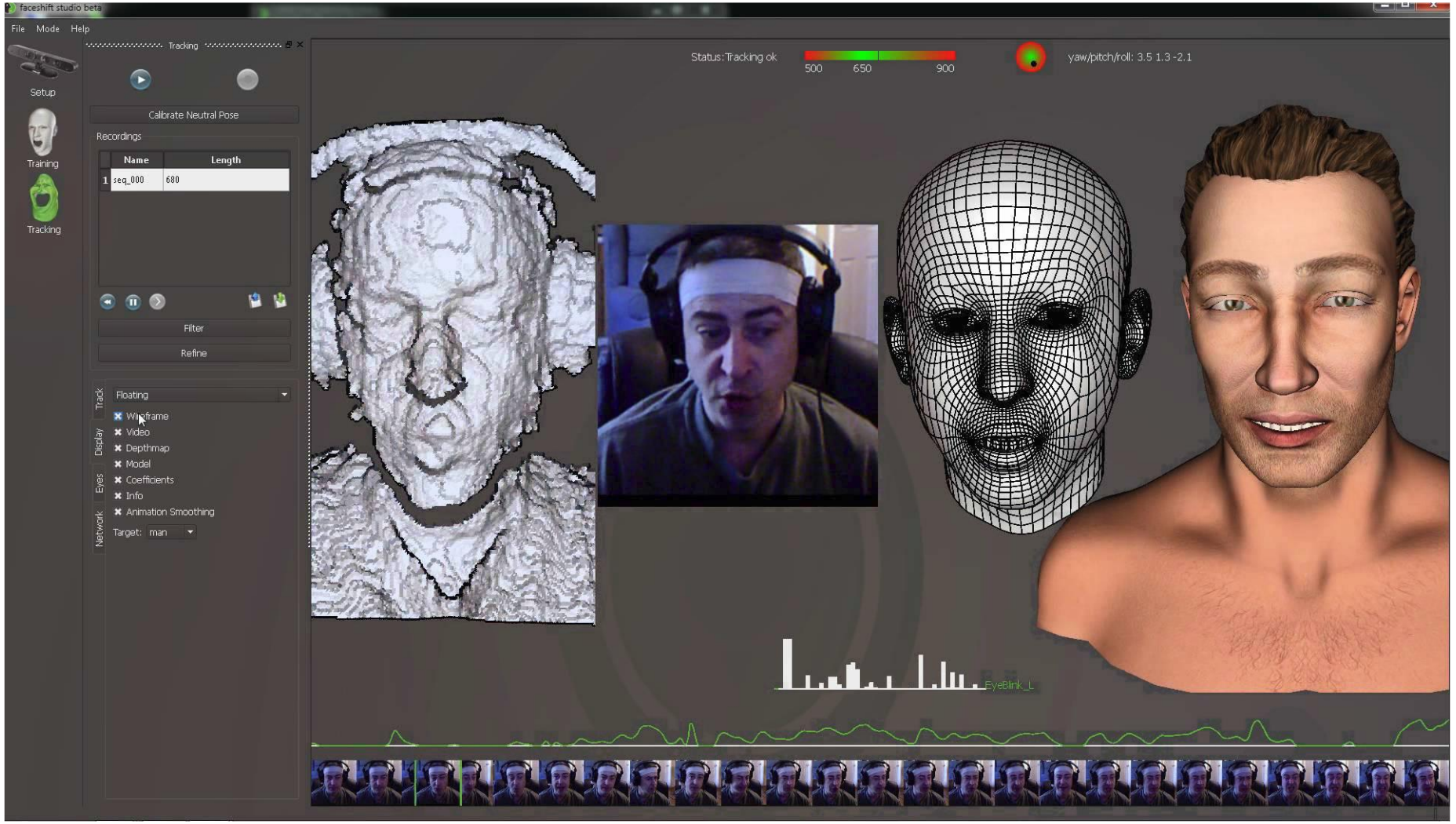
Microsoft - flight simulator

Aalborg University - surgery simulation

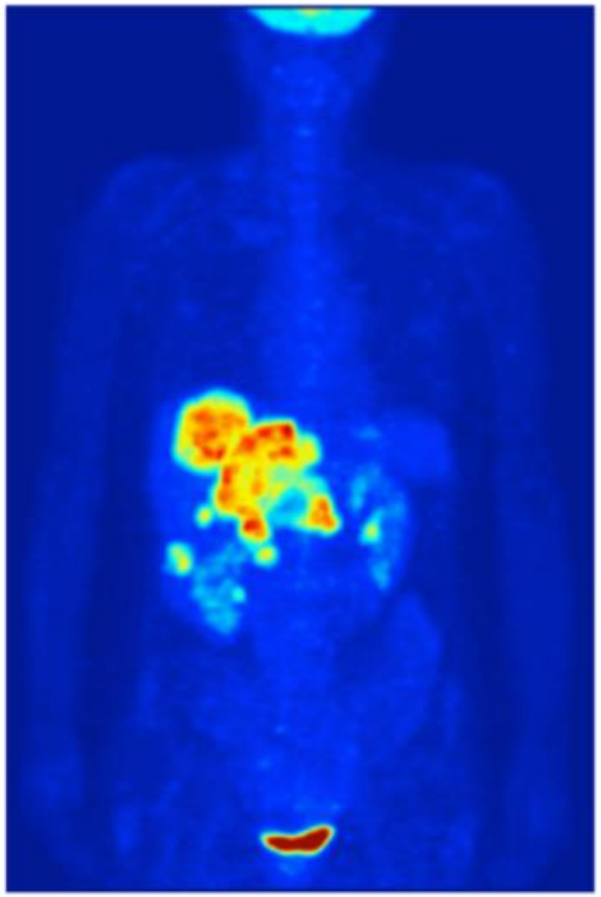
VR & AR

- 微软增强现实眼镜 Microsoft HoloLens宣传片，全息传输
- 裸眼
  - **Sig07_Rendering for an Interactive 360º Light Field Display**
  - Bleen--世界上第一个真正的空间3D全息投影设备！
  - 3D伪全息投影制作
- next

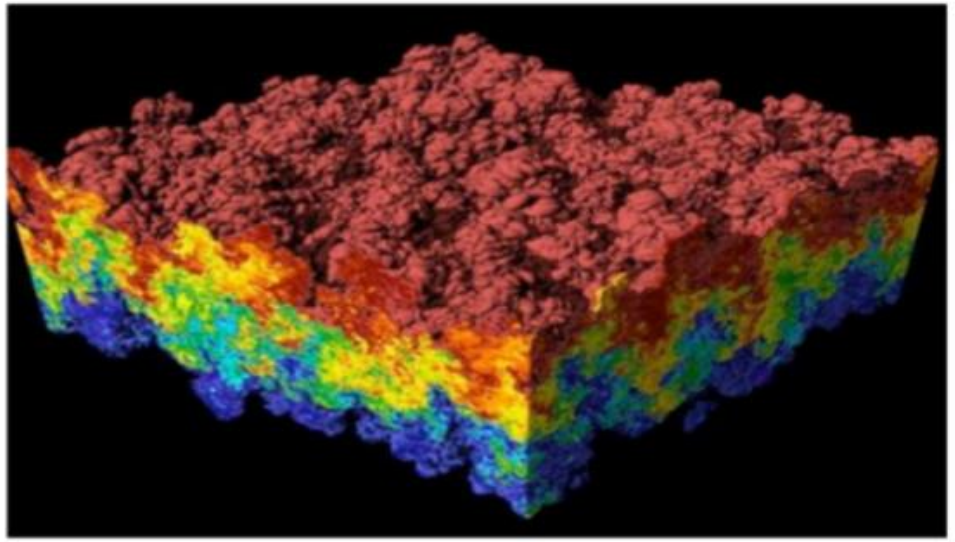
Communication



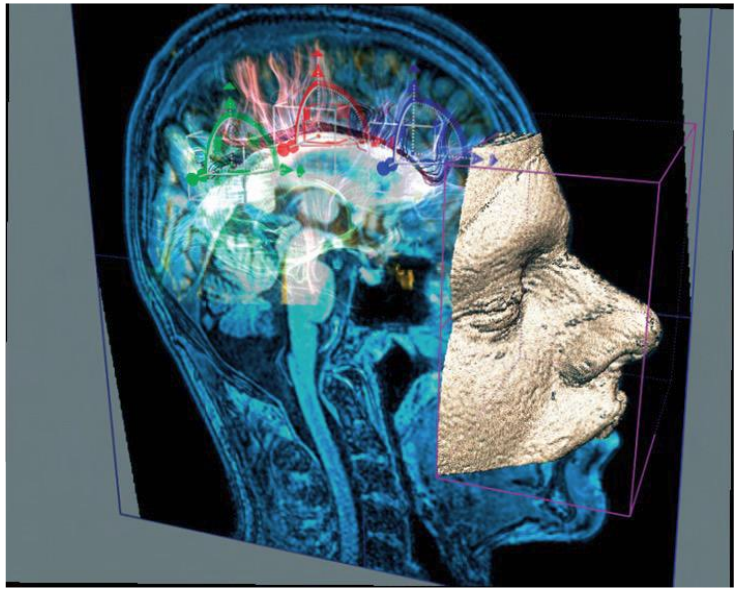
Scientific/mathematical visualization
Medical/anatomical visualization

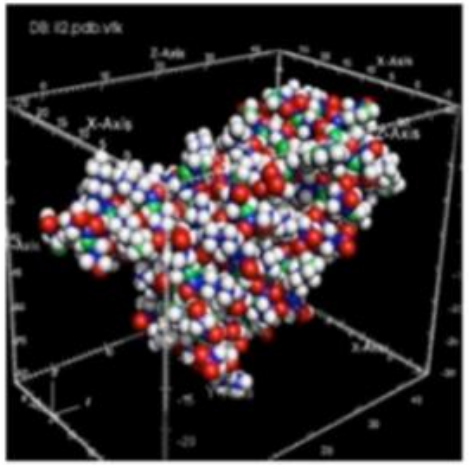


Wikipedia -PET scan

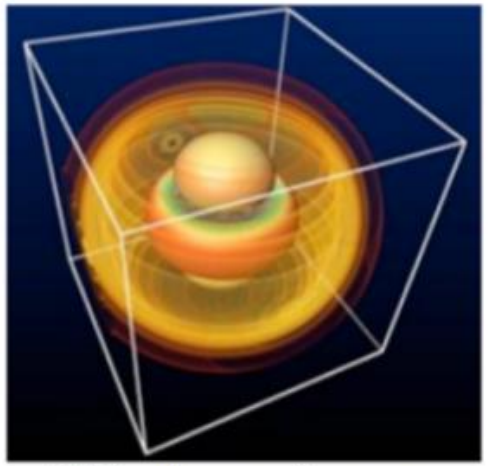


Wikipedia - mixing fluids





Wikipedia - protein rendering



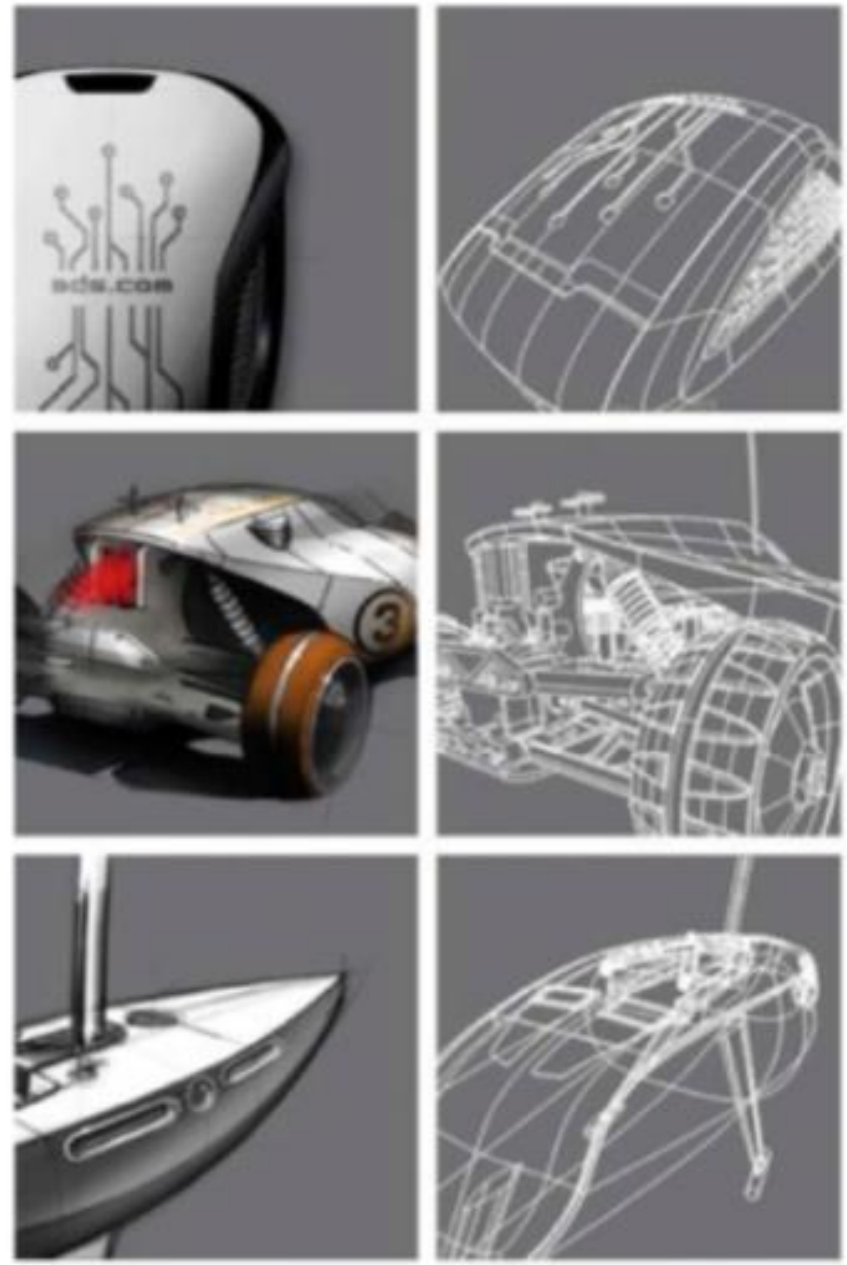
Wikipedia - gravity waves

Art and design

Legible compact calligrams, Siggraph 16

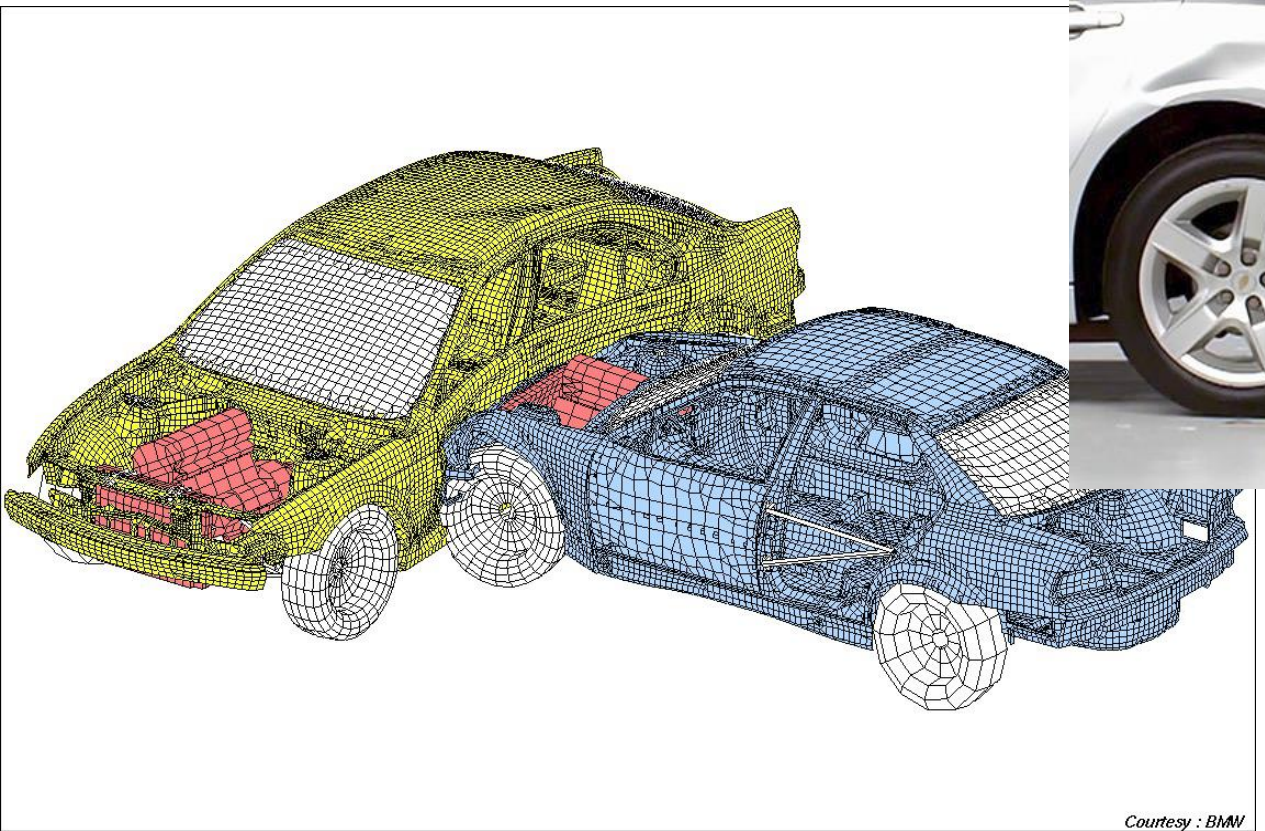
Industrial design

cyberswift - mechanical design

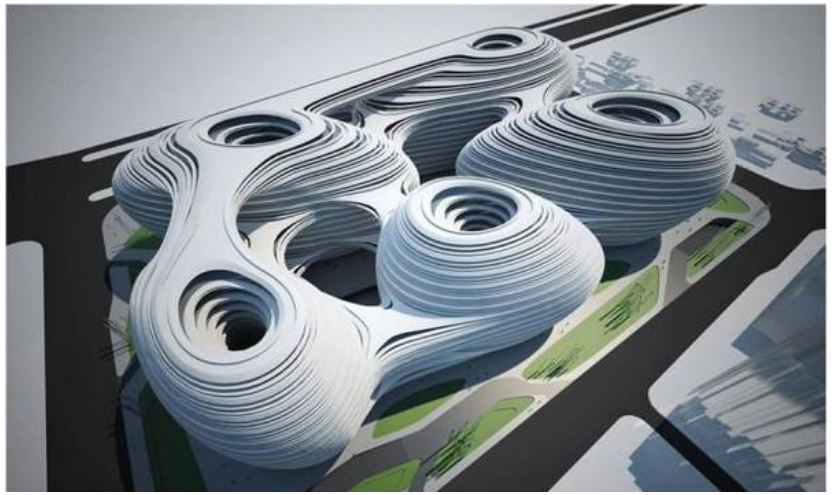


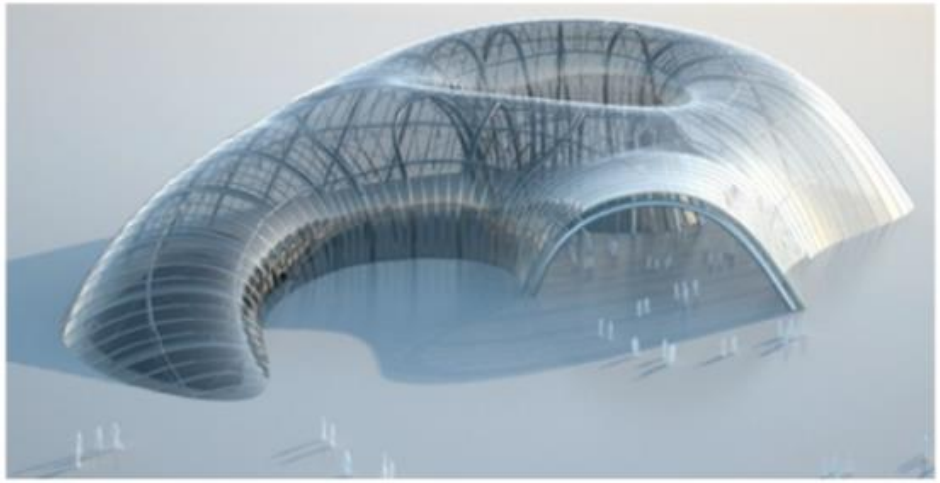
catia - product design

Computer aided engineering (CAE)



Architecture

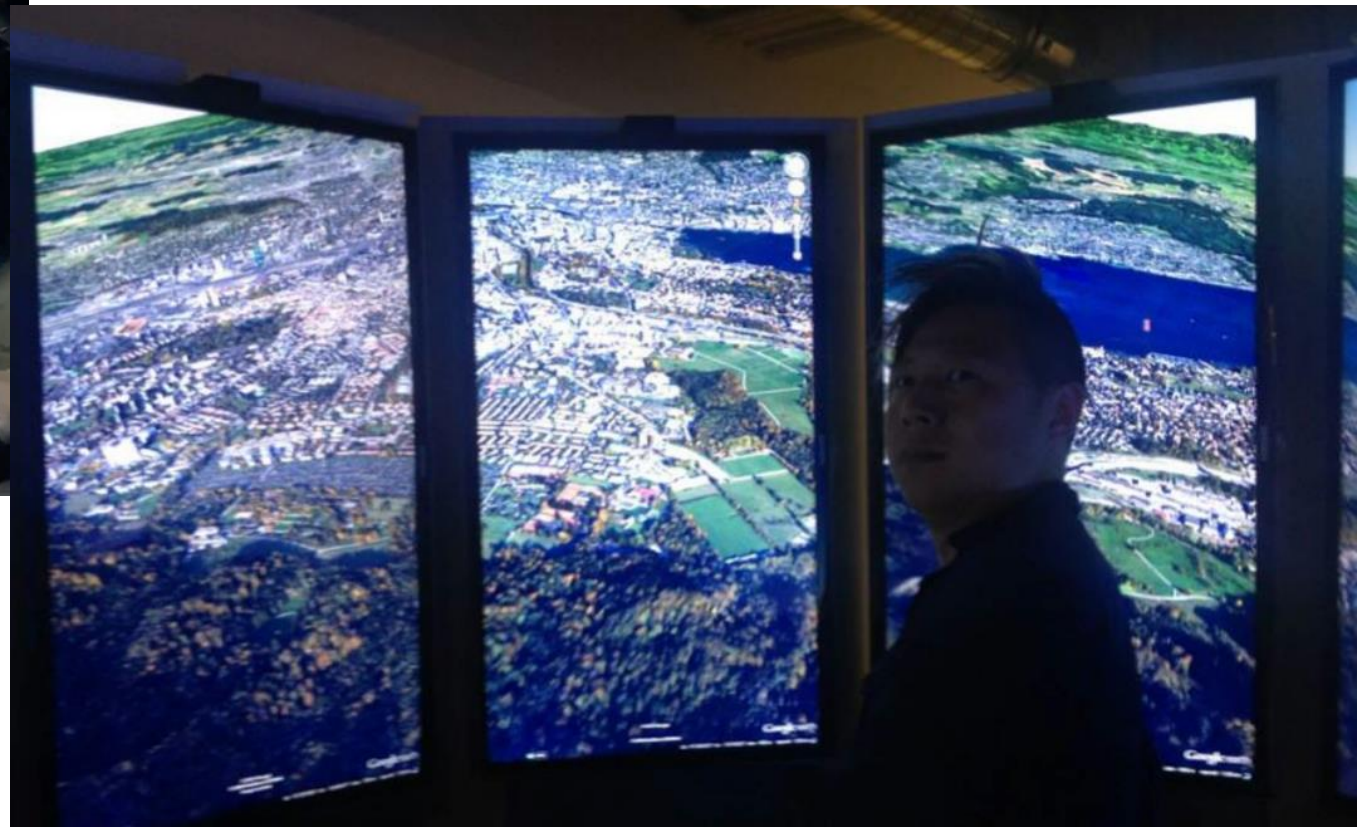




evolute - architectural design

“从拓扑和几何的角度而言，扎哈在如下几个方面颠覆了传统：**拓扑的颠覆、曲率的颠覆、稳定性的颠覆、叶状结构的突破**，等等。从扎哈的作品中，我们看到了复杂拓扑、凸体几何、双曲几何、黎曼面理论等现代数学的精髓。”– 顾险峰

3D Cities & Google Earth



Navigation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Directions
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Empire State Building