Curve and Surface Reconstruction

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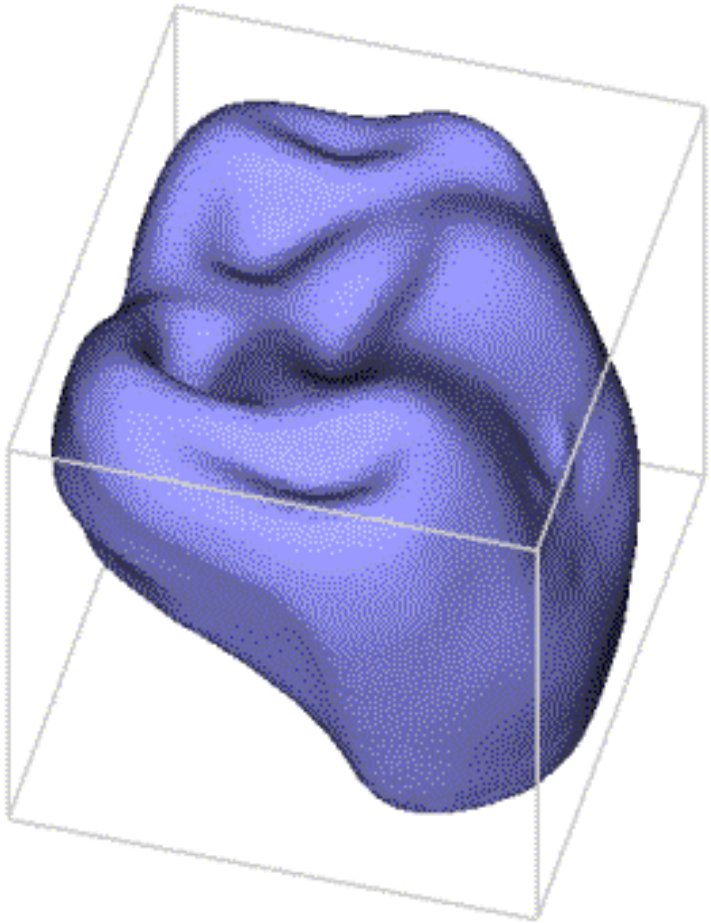
Web Resources

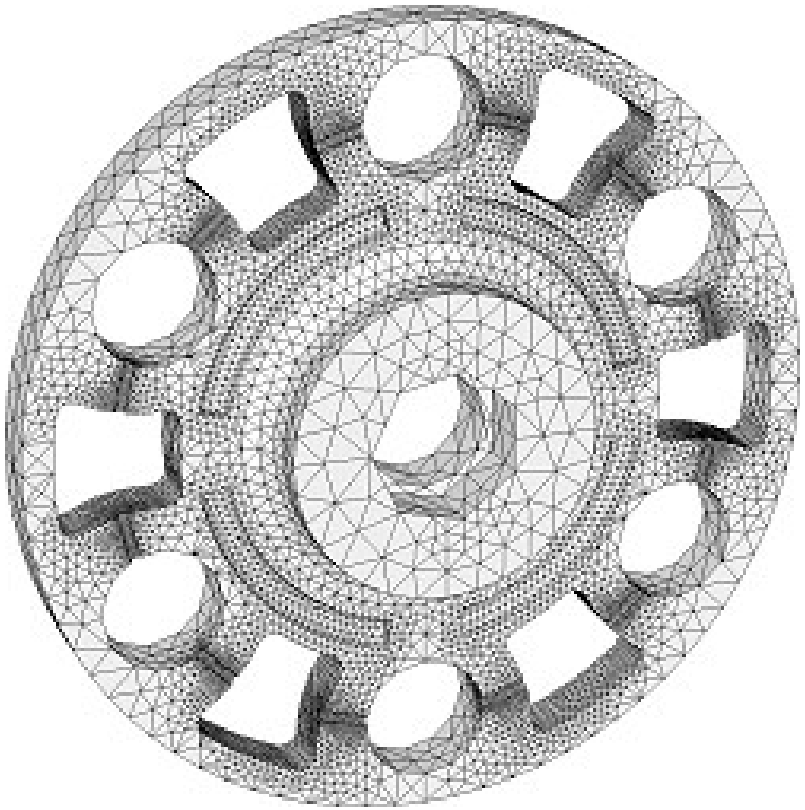
http://www.cse.ust.hk/emb/itepc2008/

http://www.cse.ust.hk/emb/itepc2008/itepc05/

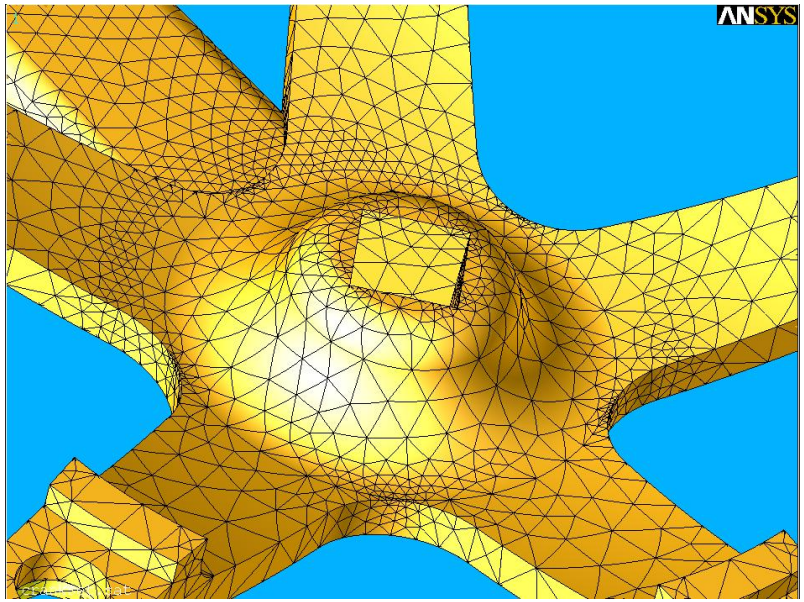
Surface from Samples



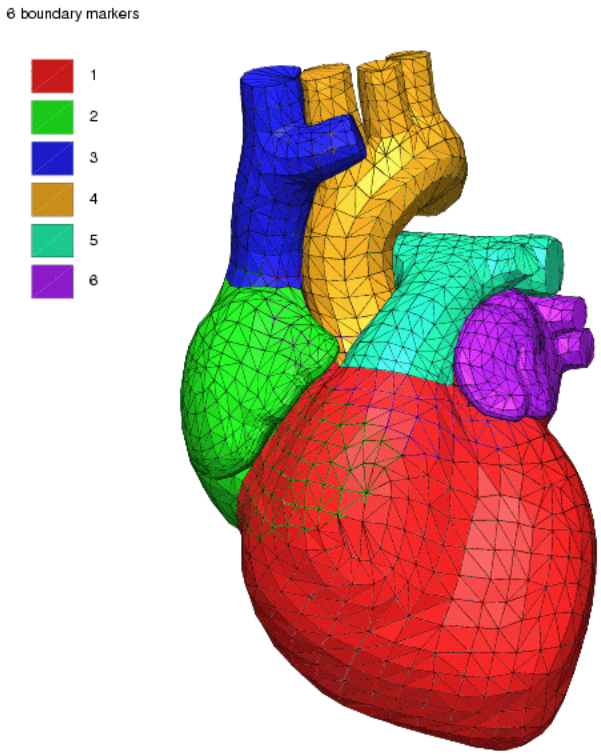
Surface from Samples



Surface from Samples

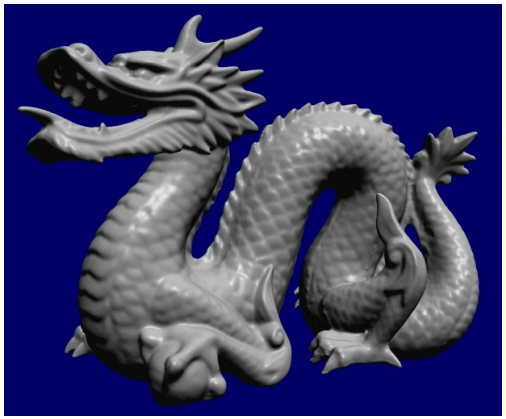


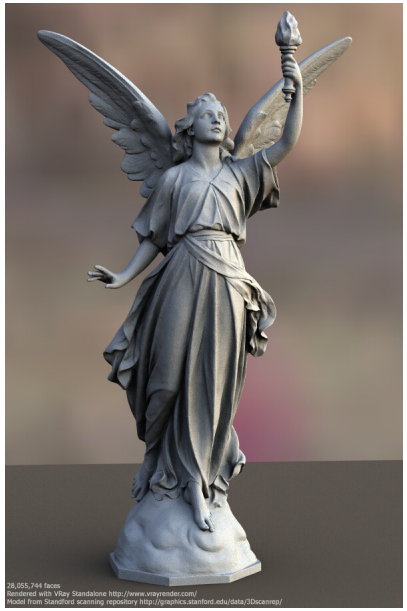
Surface from Samples



Stanford 3D Scanning Repository

http://graphics.stanford.edu/data/3Dscanrep/

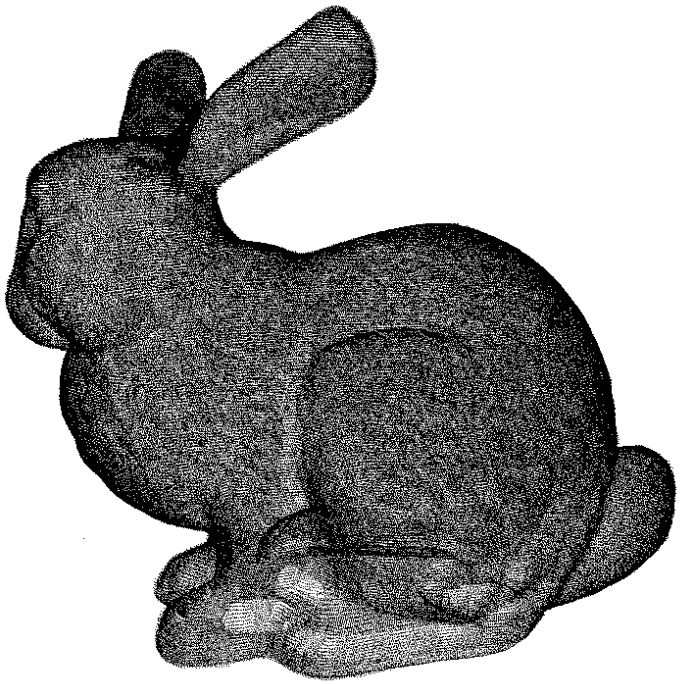


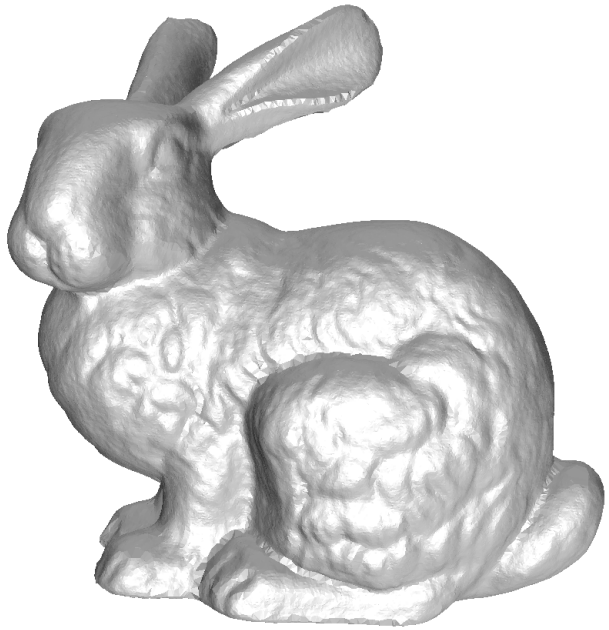


3D Scanning Devices

http://www.3dscanco.com/

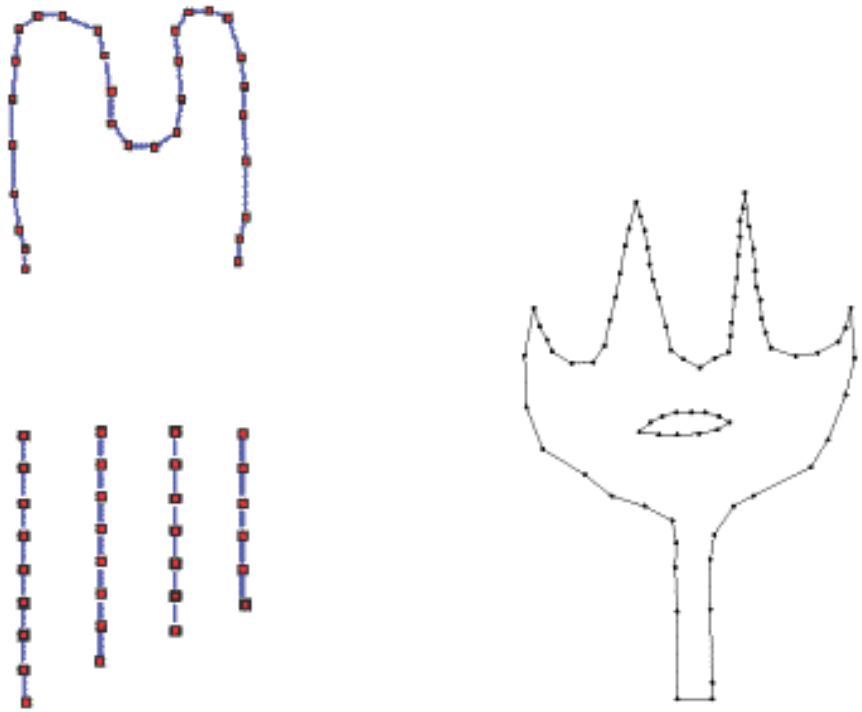
Surface Reconstruction





Given a set of point samples in $\mathbb{R}^3$, how to produce a triangular surface that connects the point samples and approximates the underlying surface?

Curve Reconstruction



Given a set of point samples in $\mathbb{R}^2$, how to produce a polygonal line that connects the point samples and approximates the underlying curve?

Course Schedule

1st meeting	Curve reconstruction, algorithm, analysis.
2nd meeting	Implementation.
3rd meeting	Surface reconstruction, formulation, algorithm.
4th meeting	Algorithm, implementation.

Final Camp

- July 31 – August 2, 2008.
- Presentation and demonstration.
- Possibly prize collection.

Work Schedule

- Hopefully can finish curve reconstruction before summer or right after summer begins.
- Finish the surface reconstruction part before the final camp.
- Focus on preparing the presentation on the first day of the camp so that you can enjoy the camp activities for the rest of the time.
- Can contact the tutor by email to get technical help at any time.
- Web resources:
  `http://www.cse.ust.hk/emb/itepc2008/`
  `http://www.cse.ust.hk/emb/itepc2008/ITEPC05`