

## Project topics

The projects are open for IGD 900/901, PRIM project, INF 515 and CSE303 (On a First Come, First Serve basis)

Continuous line arts for understanding the geometry of a shape (Geometry, Creativity, Optimization), e.g. <https://web-ext.u-aizu.ac.jp/~shigeo/research/cli/pg2011.pdf>

Feature estimation from point clouds (Geometry), e.g. <http://www.lix.polytechnique.fr/~maks/papers/voronoi.pdf>

Field generation from 3D meshes (Geometry), e.g. <https://cims.nyu.edu/gcl/papers/peng2004imt.pdf>

Learning shape similarity for sketch-based image retrieval (Learning, Creativity), e.g. [https://openaccess.thecvf.com/content\\_cvpr\\_2017/papers/Liu\\_Deep\\_Sketch\\_Hashing\\_CVPR\\_2017\\_paper.pdf](https://openaccess.thecvf.com/content_cvpr_2017/papers/Liu_Deep_Sketch_Hashing_CVPR_2017_paper.pdf)

2D-to-3D modelling (Creativity, Sketching, Modelling), e.g. <https://cg.cs.tsinghua.edu.cn/papers/SIGASIA-2013-3sweep.pdf>

3D reconstruction from sparse input (Geometry, Creativity), e.g. [https://www.cs.ubc.ca/labs/imager/tr/2019/SurfaceBrush/doc/SurfaceBrush\\_AuthorVersion\\_small.pdf](https://www.cs.ubc.ca/labs/imager/tr/2019/SurfaceBrush/doc/SurfaceBrush_AuthorVersion_small.pdf)

Interactive colouring of animations (Applied Geometry, Creativity, maybe Learning), e.g. <https://perso.telecom-paristech.fr/parakkat/PDF/CGF22.pdf>

Morphological thinning on meshes (Geometry), e.g. <https://www.dgp.toronto.edu/projects/opening-and-closing-surfaces/opening-and-closing-surfaces.pdf>

2D shape filling (Geometry), e.g. <https://static.googleusercontent.com/media/research.google.com/en//pubs/archive/32782.pdf>

Sketch simplification (Geometry, Creativity), e.g. <http://www.dgp.toronto.edu/~mccrae/projects/french/mccraeSBIM2011.pdf>

Learning-based feature extraction from meshes (Geometry, Learning), e.g. <https://arxiv.org/pdf/2007.04883.pdf>

As always, you are free to propose your own topics