

Input:
depth image from RGB-D sensor

Input:
Pose Estimation

Triangulation Process

Frequency Response Image:

$$F = (|D * K_S| + |D * K_L|) * K_G$$

F

Sampling for Vertices:
sample on higher frequency
proportional to area

V

Define Connectivity:
2D Delaunay Triangulation

T

Categorization Process

Project Mesh:
use OpenGL to create depth buffer

E

Distinguish Du and Ds:
the rays that never hit a mesh

Ds

Distinguish Dn and Dr:
difference between observed and
expected

Ds, Dn, & Dr

Update Mesh:
add new triangles, remove old, adapt existing

M

D

P

Du