CV talk response

Build18 parts

Experiential learning

Angela CV talk

Signed distance field

-each pixel in the grid stores distance to the nearest surface, can extract surface at zero crossing

Understanding 3D scans

1. Class label per voxel/vertex
2. Combine color and video feed

Trying to move to data driven approaches

Colr input to 2d feature extraction

Then 3D scenes to 3D feature extraction

Some missing geometry

Varying size scenes

3d scan completion on shapes

Poisson surface reconstruction

Solution : get database of 3d models and use them to complete your incomplete scans.

Use convolutional networks for varying sizes ,convolve to complete geometry.

Autoregressive neural networks – image generated pixel by pixel. Dependent on pixels to the left and above the current generating pixel.

Completion quality

* L1 error metric
* Better results than frame by frame/volume by volume approaches

Can allow completion of 3D data without scanning everything completely.