

Senior Design Weekly Meeting #13

Meeting Minutes

11/30/2020 15:30 - 16:15

CM/TM: Dr. Honggang Zhang

Students: Zhuoming Huang, Yue Sun, Alinson Sanquintin

- **Agenda**

1. SAR Experiments Related
2. Deep Learning Related

- **Notes**

1. SAR Experiment related
 - a. Synthesize 1000 pairs of CAD point cloud and radar 3d intensity images
 - b. Write a code for generating two boxes with different sizes, make sure the distances between two boxes and between boxes and radar are far enough to be distinguished by radar.
 - c. For finding relation between position error and phase difference, move the whole slider horizontally by 3mm instead of 100mm to get more pairs of data for comparison. Make a box plot from these data.
2. Deep Learning Related
 - a. 3D-to-2D NN:
input: 3D heatmap + 2D depth map (ground truth)
output: 2D depth map
 - b. 2D-to-2D NN:
use any 2x8 out of 64x24 data for training

- **Follow-up**

1. Wrote MATLAB programs for generating points for boxes, and visualizing the radar heatmap in a 3D space.
2. Re-collected data for boxes instead of chairs, boxes were also covered by cloth.