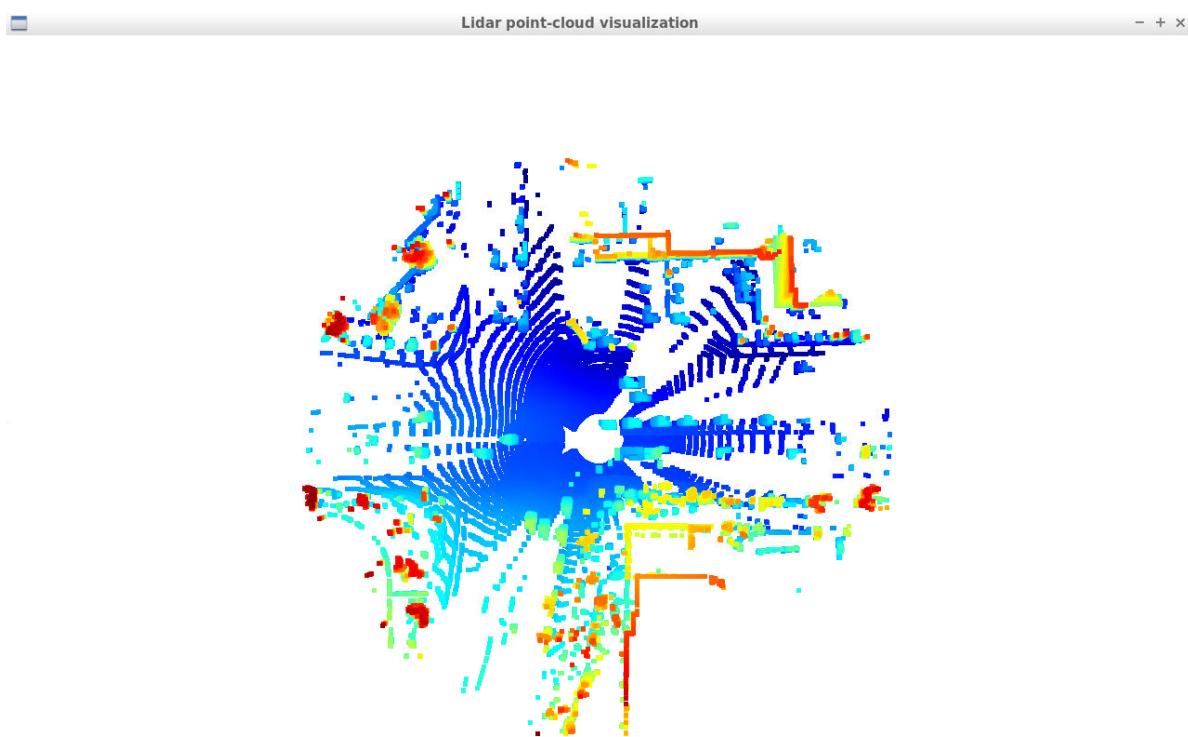


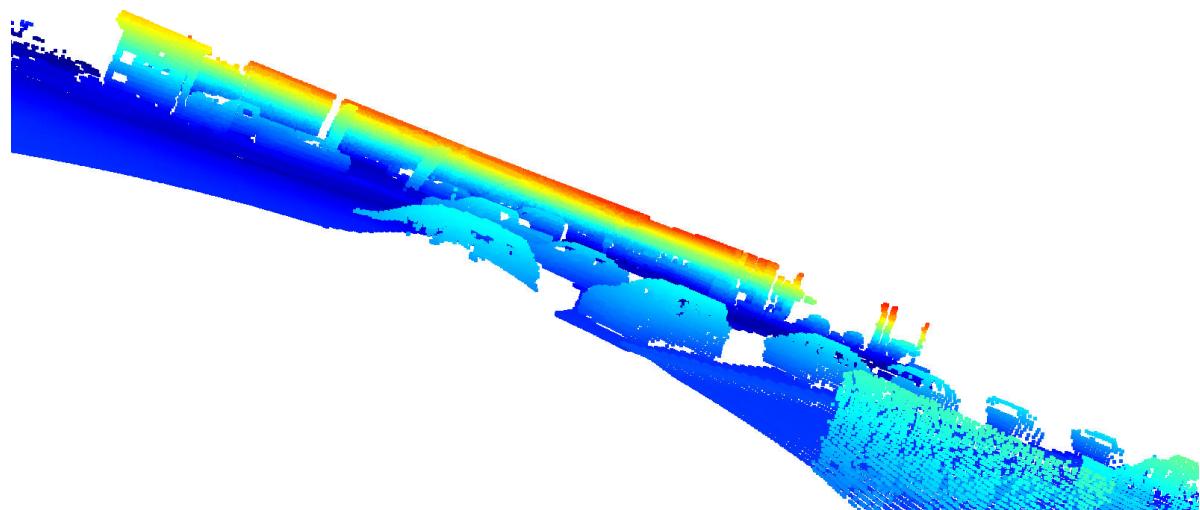
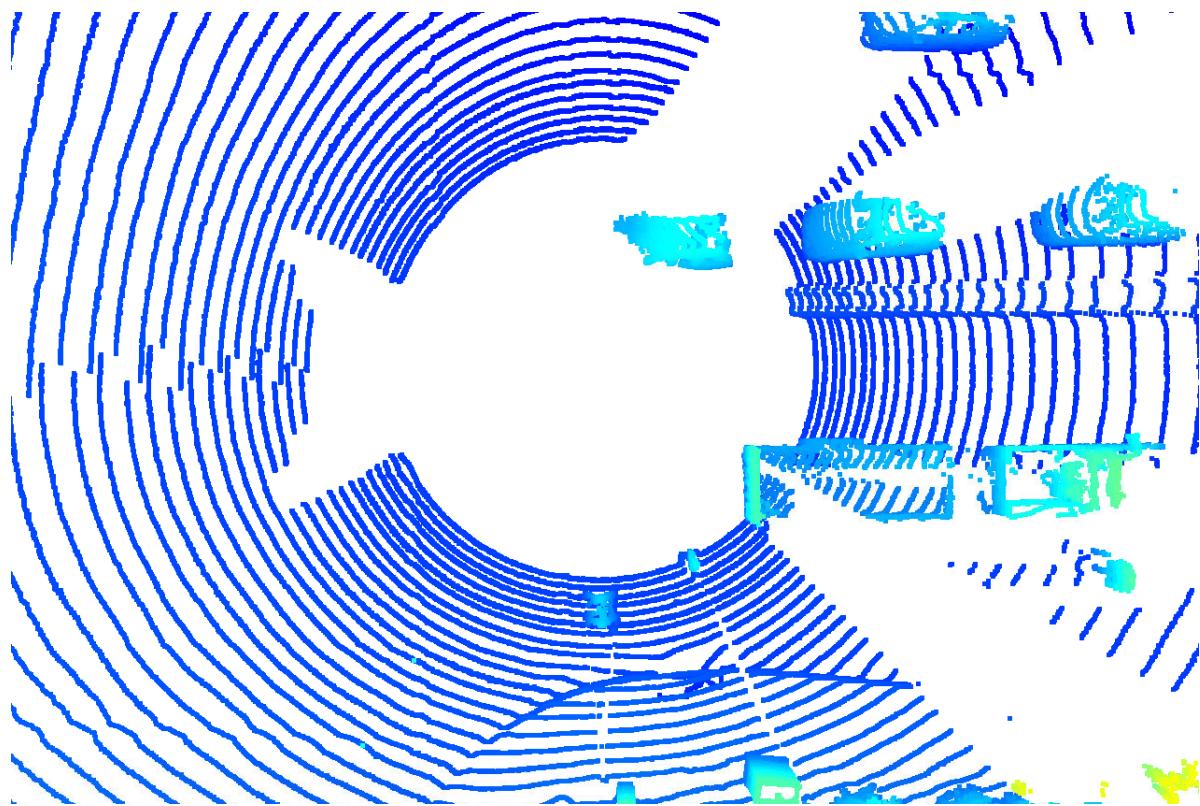
Step 1. Converting Range Images to Point Clouds

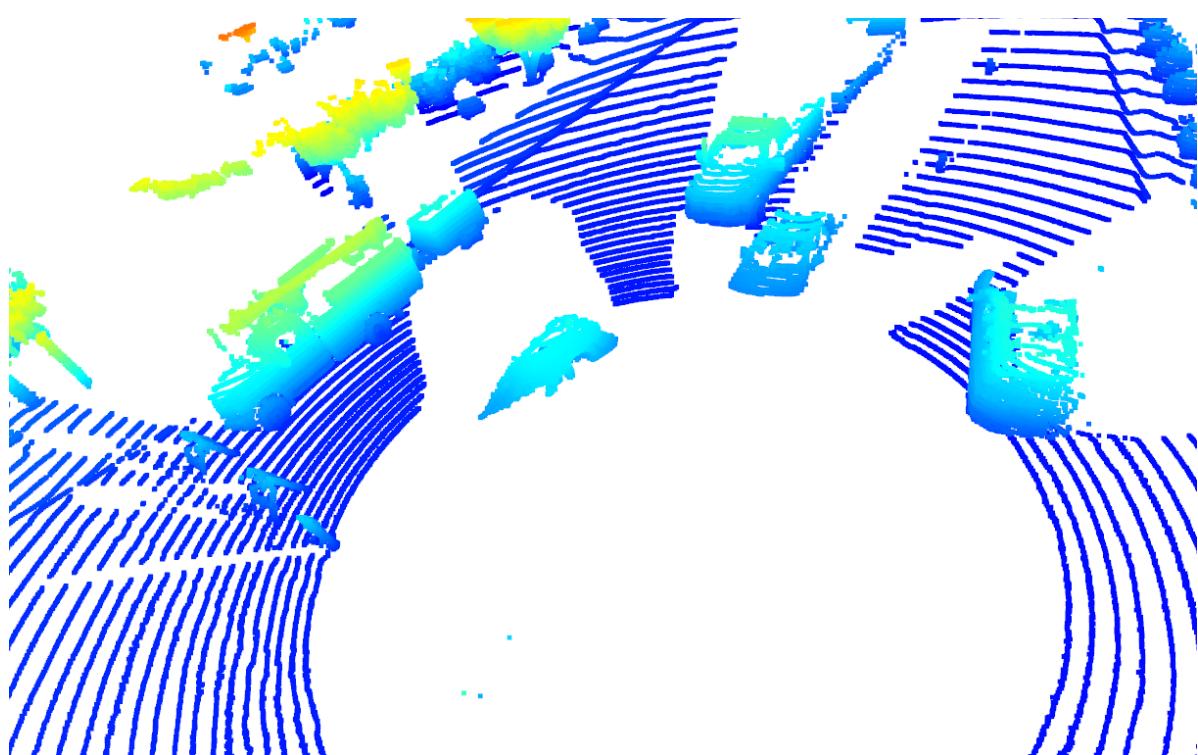
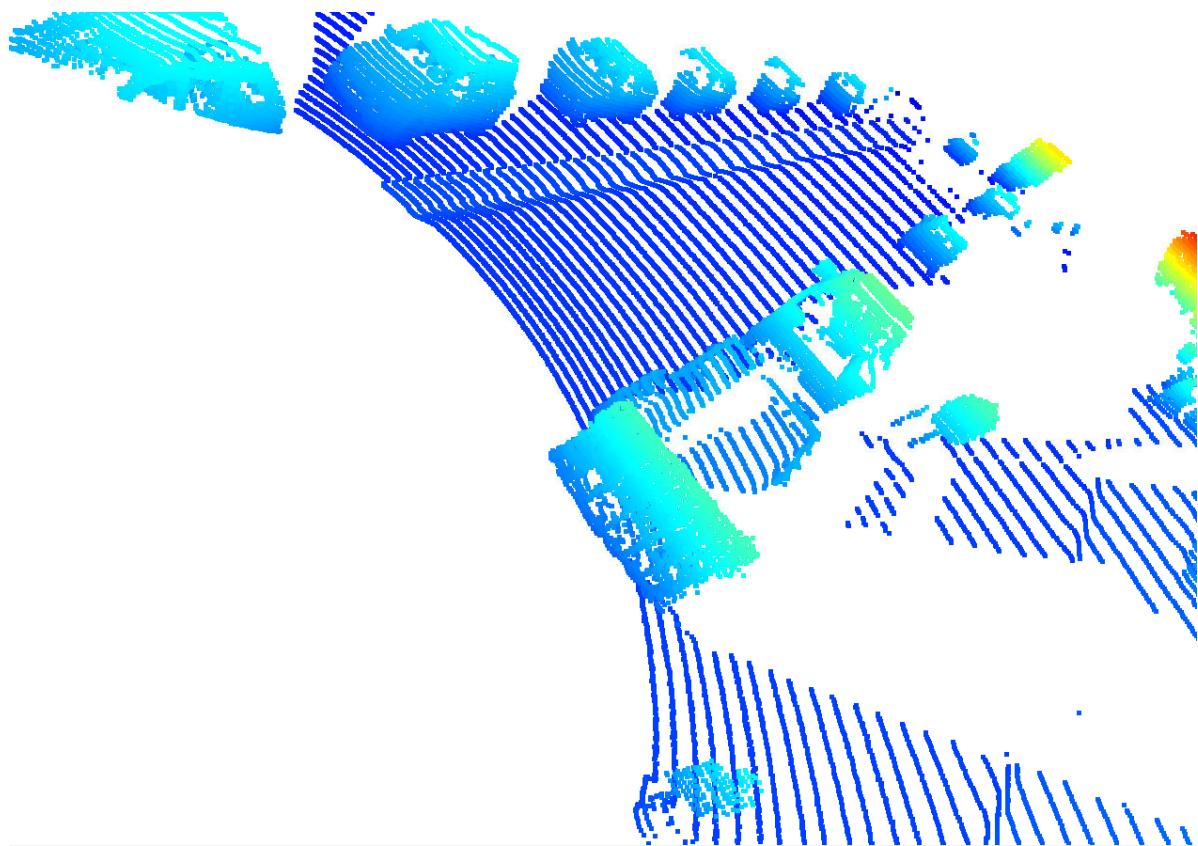
1. Visualizing Range Images(ID_S1_EX1)

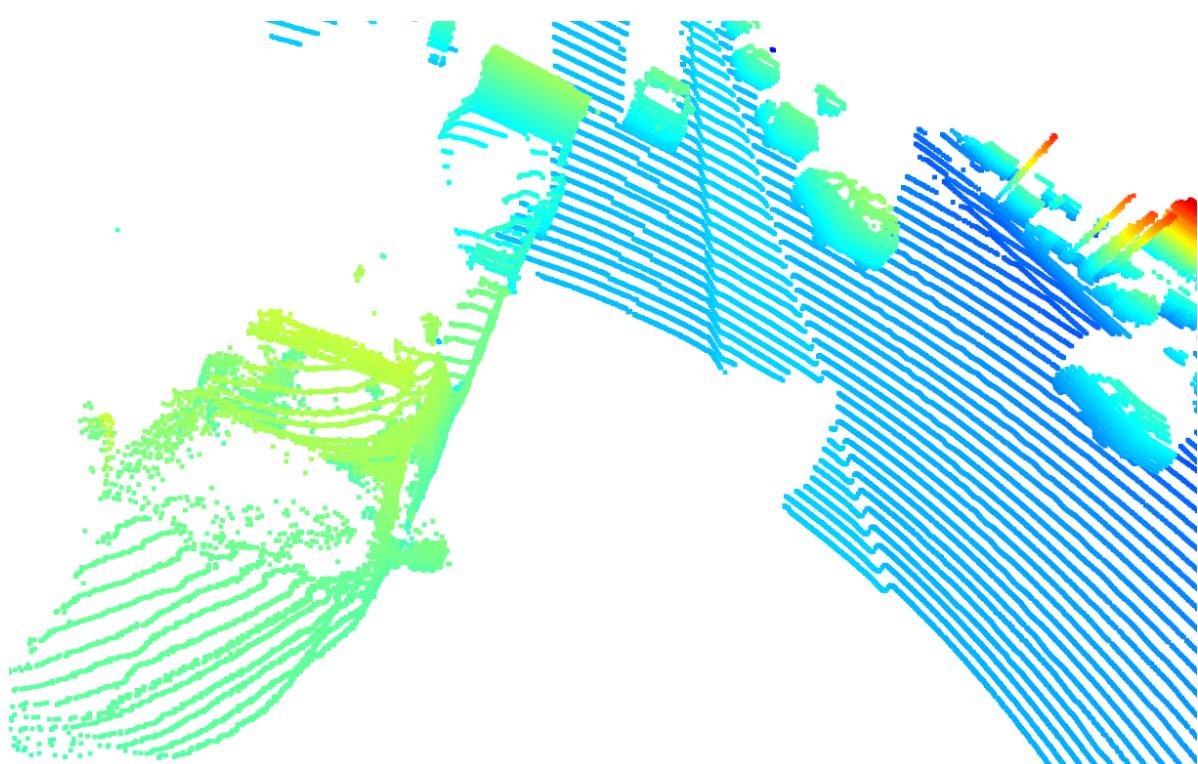
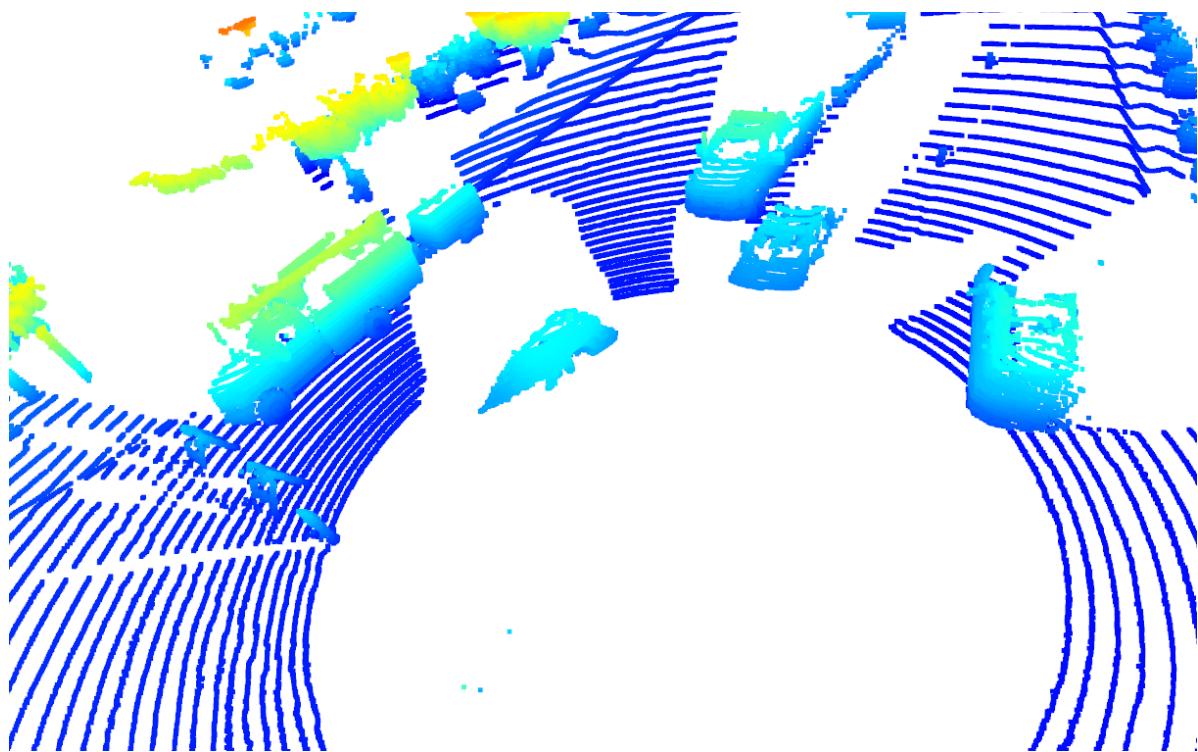


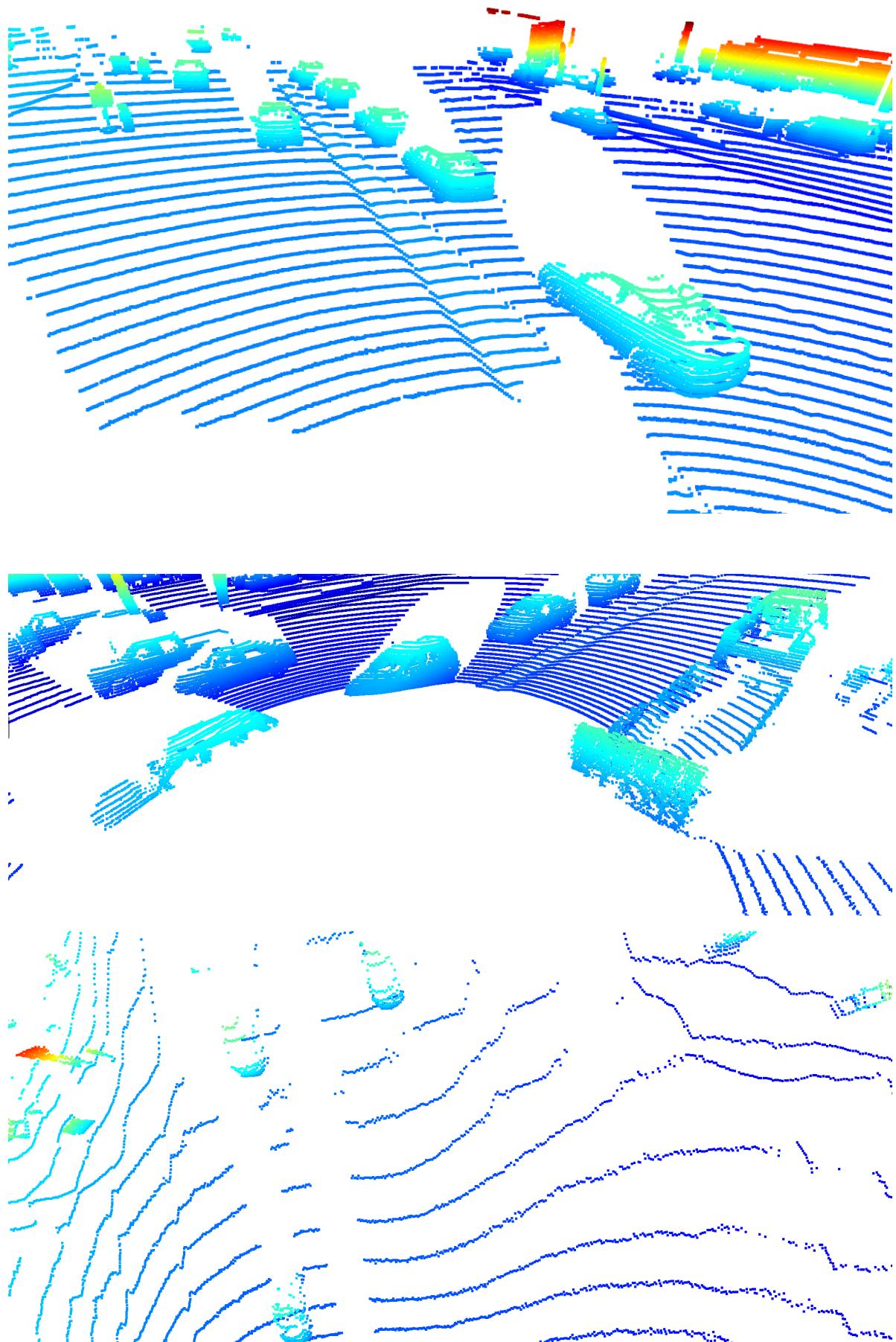
2. Converting Range Images to Point Clouds(ID_S1_EX2)







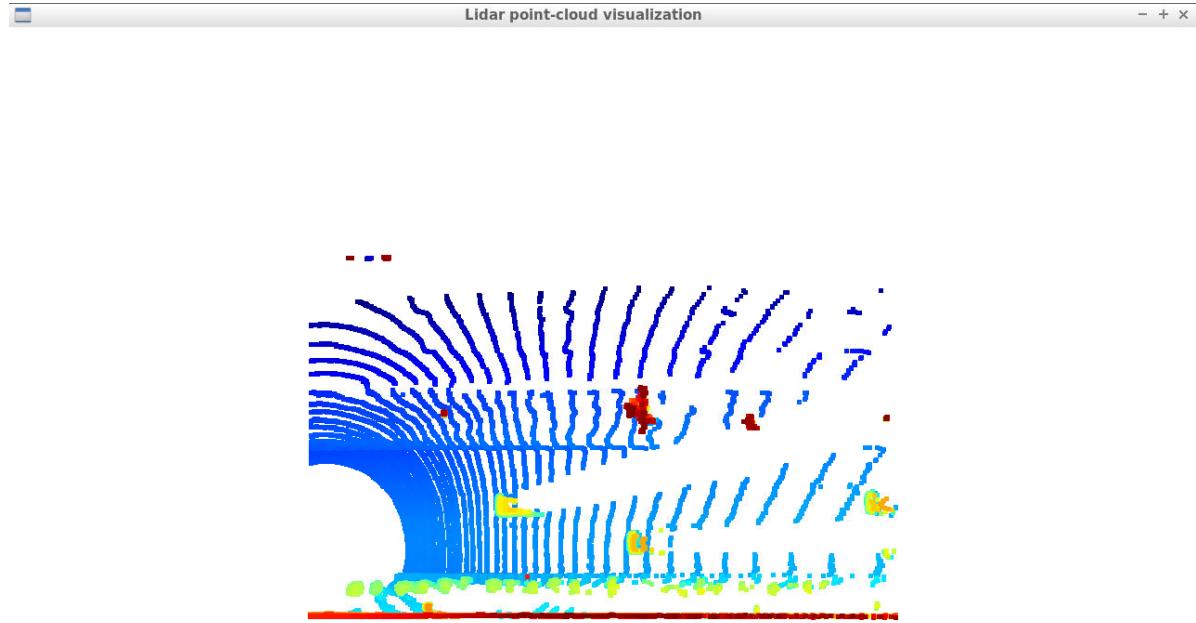




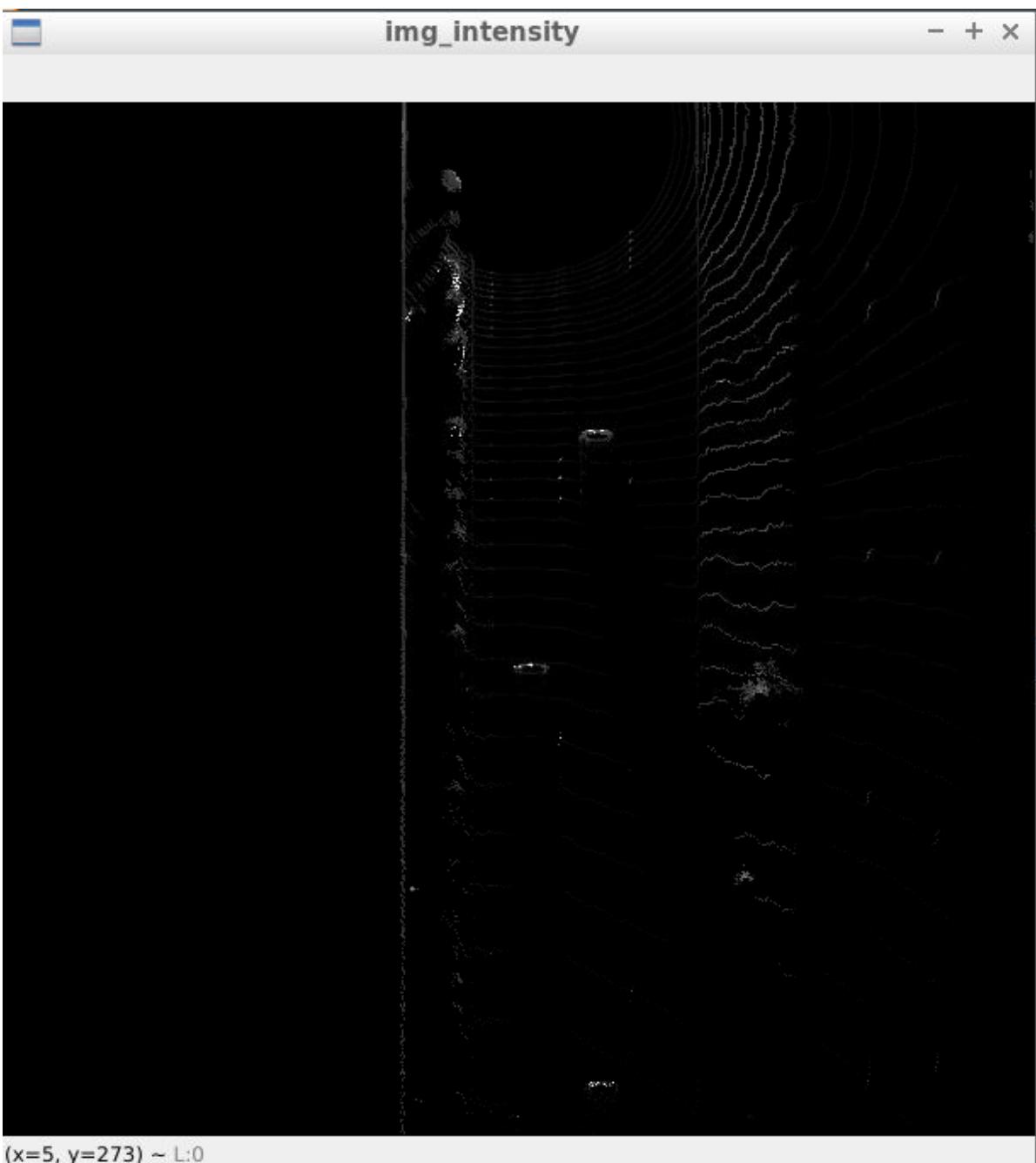
Step 2. Create Birds-Eye View (BEV) from Lidar PCL

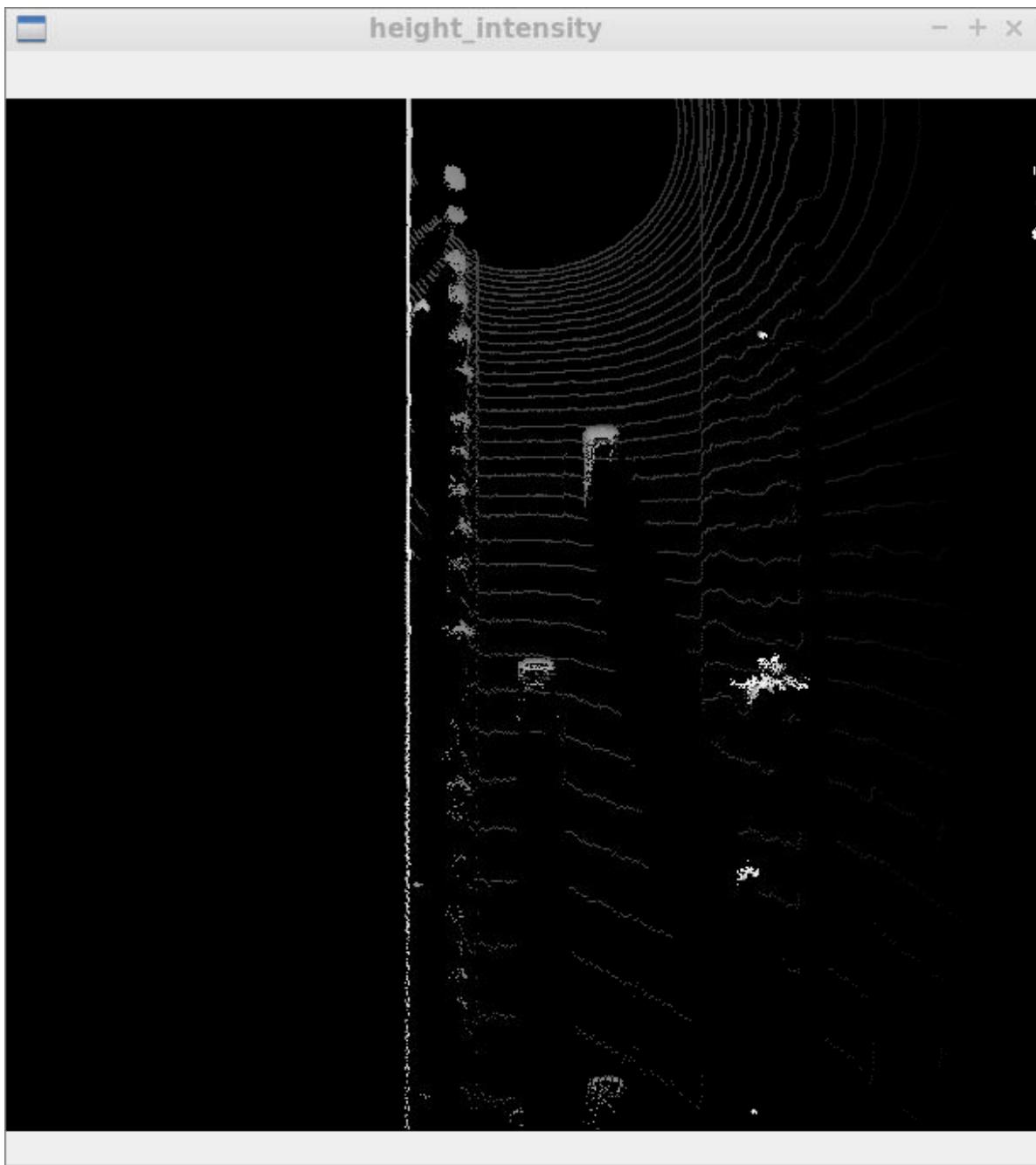


1. Convert sensor coordinate to BEV-map coordinates(ID_S2_EX2)



2. Compute intensity/height/density layer of the BEV map(ID_S2_EX3)

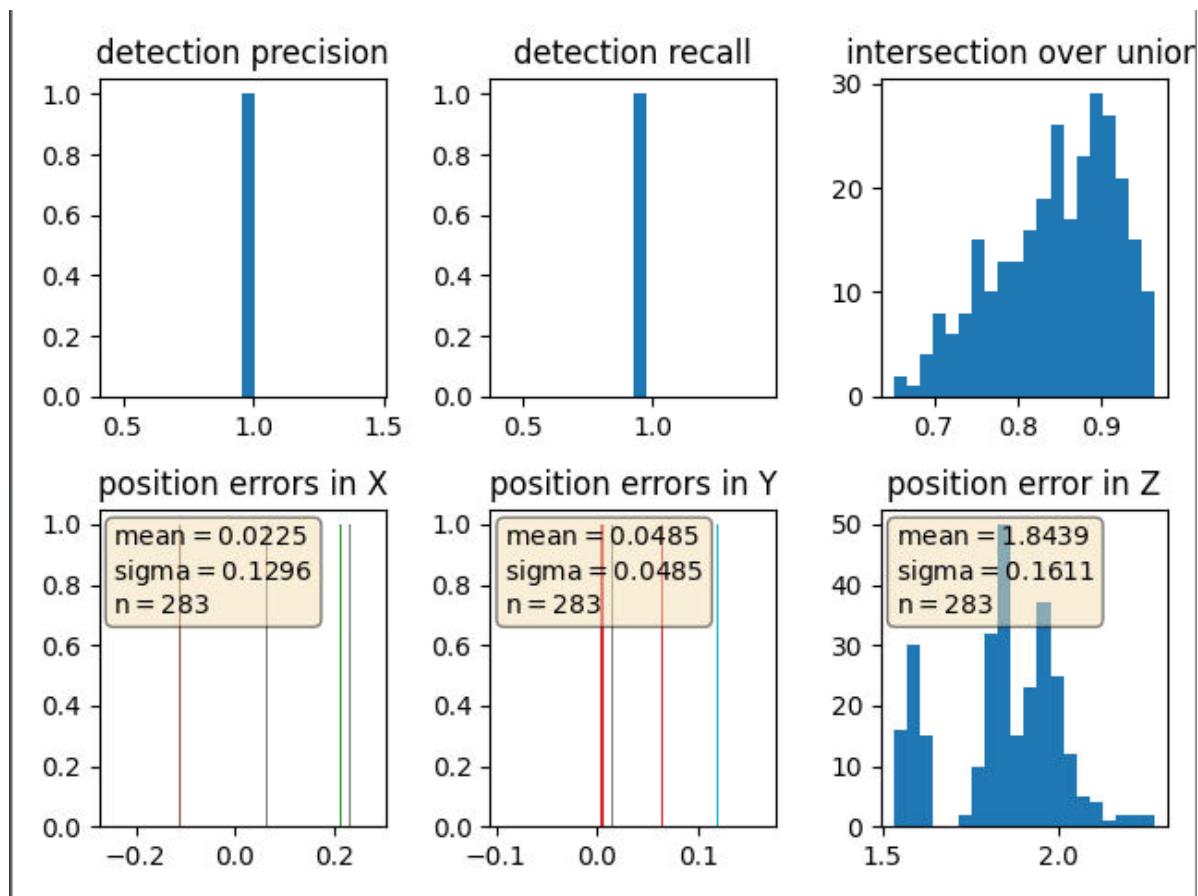




Step 3. Model-based Object Detection in BEV Image

Step 4. Performance Evaluation for Object Detection

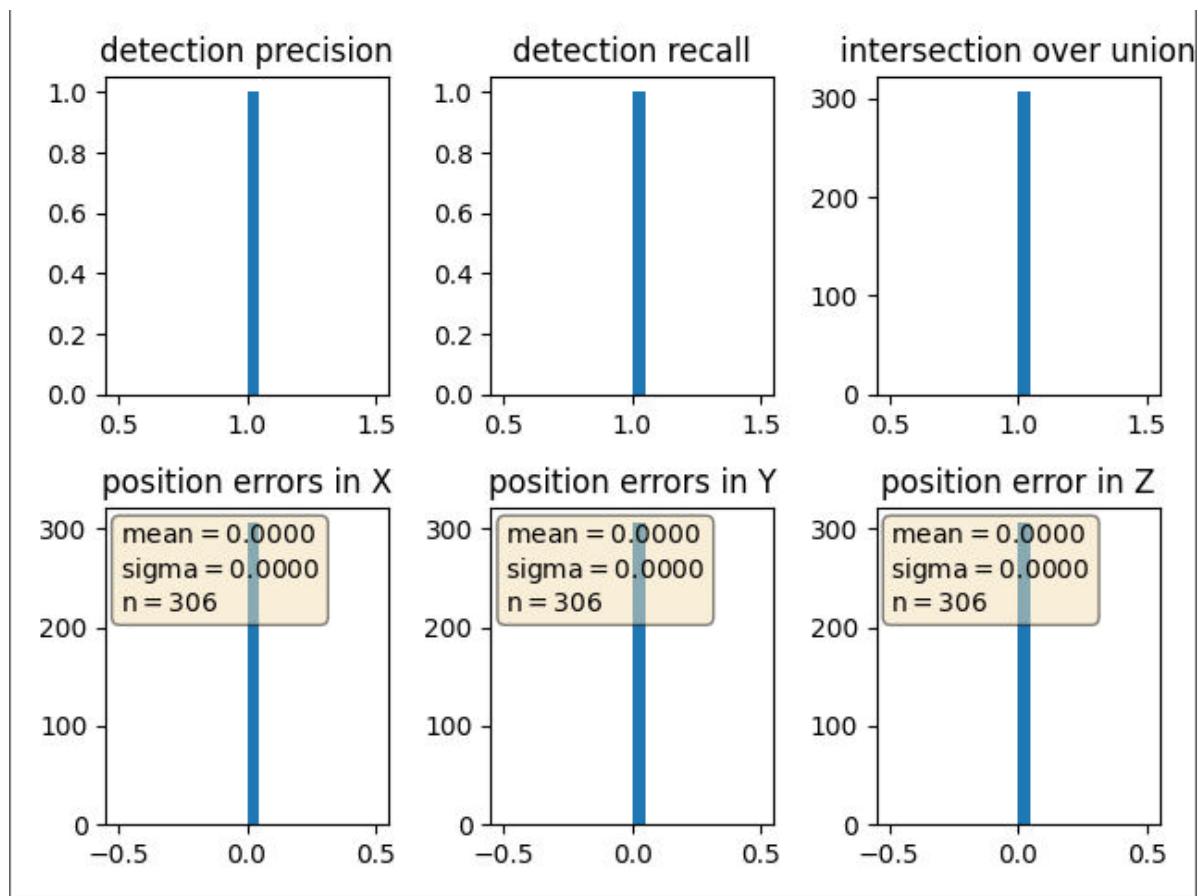
DarkNet



```

computing birds-eye view from lidar pointcloud
student task ID_S2_EX1
student task ID_S2_EX2
student task ID_S2_EX3
detecting objects in lidar pointcloud
student task ID_S3_EX2
validating object labels
measuring detection performance
student task ID_S4_EX1
student task ID_S4_EX1
student task ID_S4_EX1
student task ID_S4_EX2
reached end of selected frames
student task ID_S4_EX3
precision = 0.9593220338983051, recall = 0.9248366013071896

```



```

computing birds-eye view from lidar
student task ID_S2_EX1
student task ID_S2_EX2
student task ID_S2_EX3
using groundtruth labels as object
validating object labels
measuring detection performance
student task ID_S4_EX1
student task ID_S4_EX1
student task ID_S4_EX1
student task ID_S4_EX2
reached end of selected frames
student task ID_S4_EX3
precision = 1.0, recall = 1.0

```