detect: {

roi: {

## ROI range

# type: true, float, float, float

# default: 60.0,999.0,999.0 in SegMatch

# default: "Cylinder"(0,60)

roi\_type: "Cylinder",

#roi\_type: "Square",

# ROI filter needs lidar installed height

roi\_lidar\_height\_m: 1.73,

## Horizontal range

#--- for "Cylinder"

roi\_radius\_min\_m: 2.,

roi\_radius\_max\_m: 20,

#--- for "Square"

#roi\_radius\_min\_m: 15.,

#roi\_radius\_max\_m: 120.,

# Vertical range

roi\_height\_below\_m: 1.,

roi\_height\_above\_m: 2,

},

Segmenter: {

#---------------------------------------- Ground Segmenter

## default: Ground Plane Fitting Segmenter

### Ground Plane Fitting Segmenter

## in Paper: Nsegs=3/Niter=3/Nlpr=20/THseeds=0.4m/THdist=0.2m

# gpf\_sensor\_model: 64,

gpf\_sensor\_height: 1.73,

# fitting multiple planes, at most 6 segments

## default: 1

gpf\_num\_segment: 1,

#gpf\_num\_segment: 3,

# number of iterations

gpf\_num\_iter: 3,

#pf\_num\_iter: 10,

## number of points used to estimate the lowest point representative(LPR)

# double of senser model???

gpf\_num\_lpr: 20,

#pf\_num\_lpr: 128,

#gpf\_num\_lpr: 1280,

gpf\_th\_lprs: 0.08,

# threshold for points to be considered initial seeds

gpf\_th\_seeds: 0.1,

#gpf\_th\_seeds: 0.5,

# ground points threshold distance from the plane <== large to guarantee safe removal

#gpf\_th\_gnds: 0.23,

gpf\_th\_gnds: 0.3,

### Ground RANSAC Segmenter

# 0.3 for better perforamce

## default: 0.3

sac\_distance\_threshold: 0.2,

## default: 100

sac\_max\_iteration: 100,

## default: 0.99

sac\_probability: 0.99,

#---------------------------------------- Non-ground Segmenter

# default: Region Euclidean Cluster Segmenter

### Region Euclidean Cluster Segmenter

## regions' size list

# type: std::vector<int>

# default: 14

#rec\_region\_size: 14,

rec\_region\_size: 7,

rec\_region\_sizes: [4, 5, 5, 5, 5, 5, 5],

# the same as euclidean distance tolerence for ECE

rec\_region\_initial\_tolerance: 0.2,

## increase euclidean distance tolerence between adjacent region

# type: float

# default: 0.2

rec\_region\_delta\_tolerance: 0.2,

## minimum/maximum cluster's point number

# type: int

# default: 5/30000

rec\_min\_cluster\_size: 10,

#rec\_min\_cluster\_size: 50,

rec\_max\_cluster\_size: 30000,

## Clusters merged between regions

# type: bool

# default: false

#rec\_use\_region\_merge: false,

rec\_use\_region\_merge: true,

## Merge corresponding ground box overlap IoU threshold

# type: float

# default: 0., merge if there is overlap

rec\_region\_merge\_tolerance: 0.3,

### Euclidean Cluster Segmenter

# 0.2,5,30000 in online\_learning

# 0.2,200,15000 in SegMatch

## euclidean distance threshold

# type: float

# default: 0.25

ec\_tolerance: 0.2,

## minimum/maximum cluster's point number

# type: int

# default: 5/30,000

ec\_min\_cluster\_size: 20,

#ec\_min\_cluster\_size: 50,

ec\_max\_cluster\_size: 30000,

},

}