
BEV Fusion with PointPainting for 3D Object Detection

Team. JoJo

김민지 김정민 임지연 허정은

강사 사지원



목차

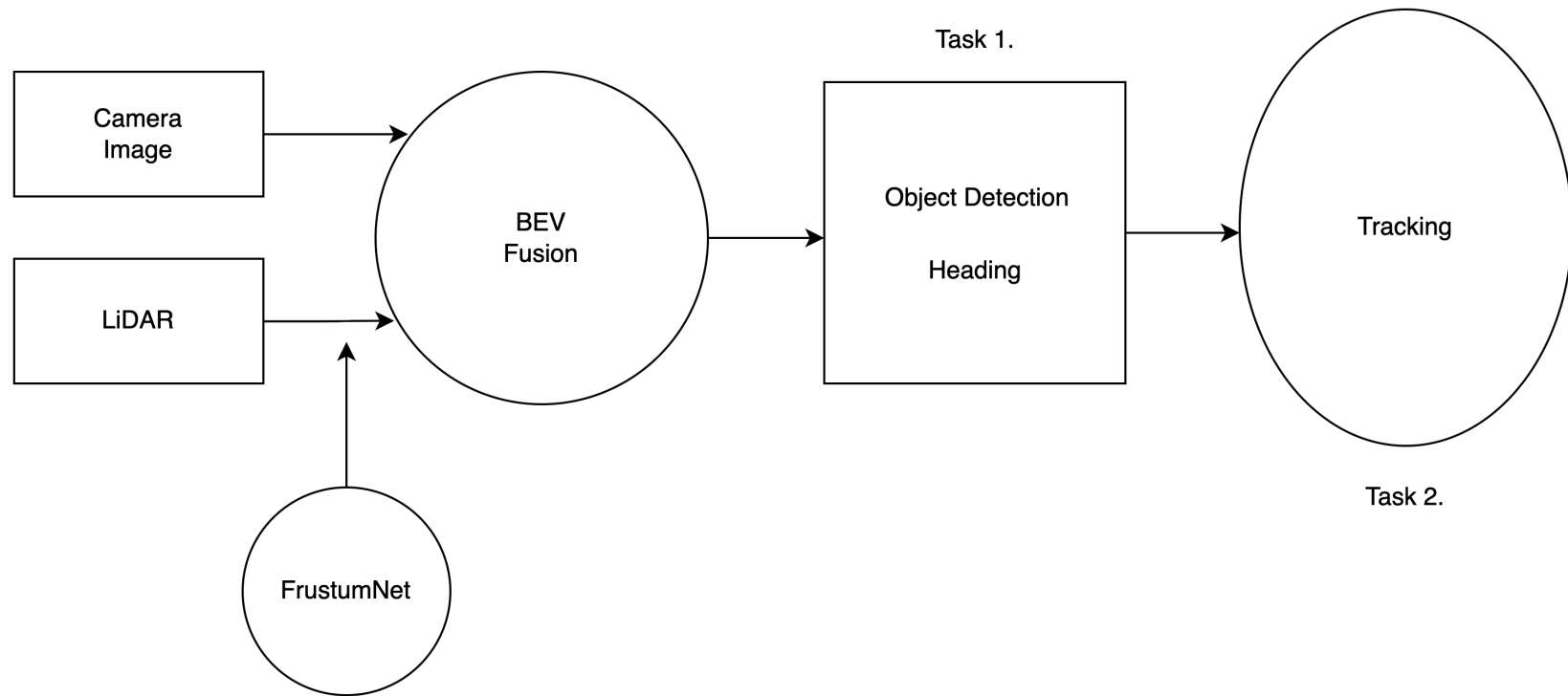
1. BEV Fusion과 FrustumNet

2. PointPainting

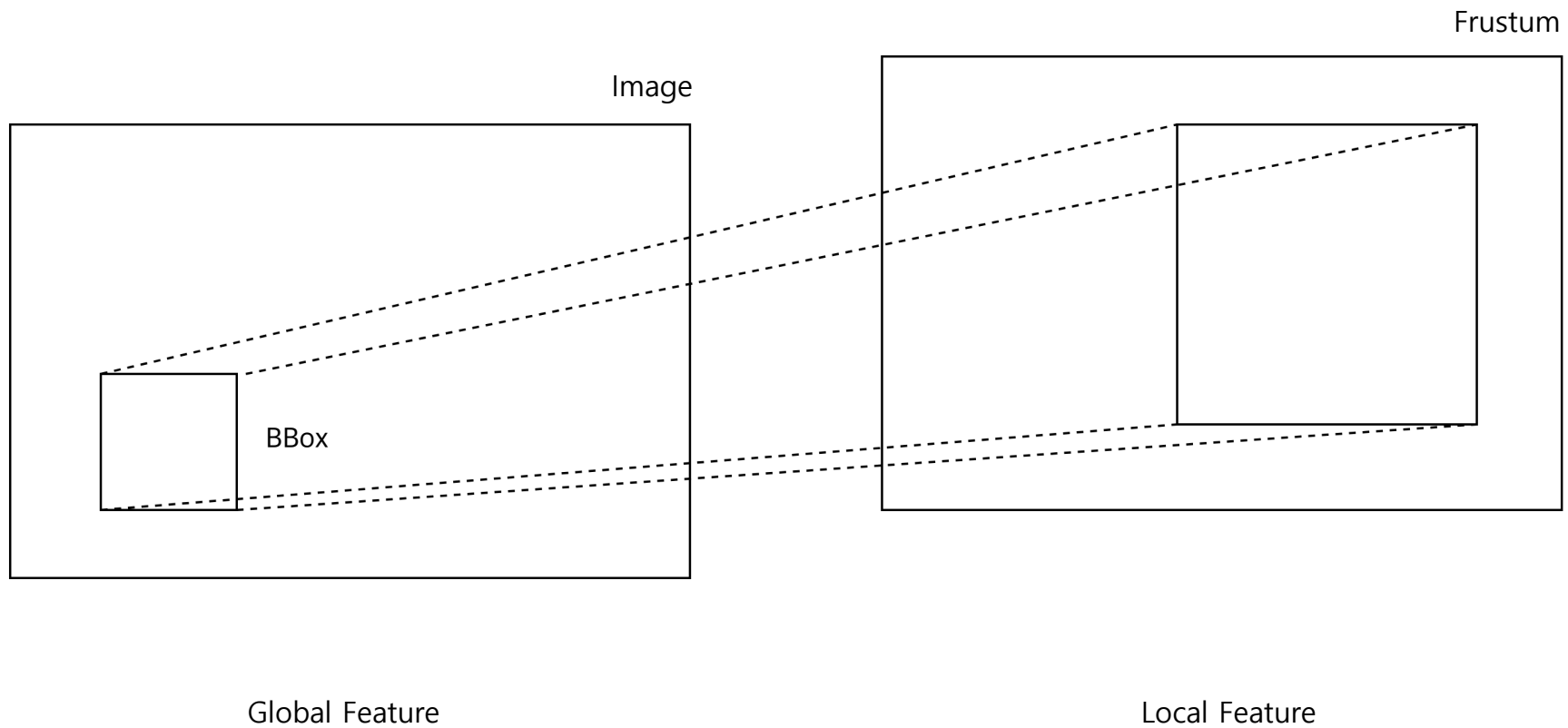
3. BEV Fusion과 PointPainting

4. 2D Bounding Box Heading

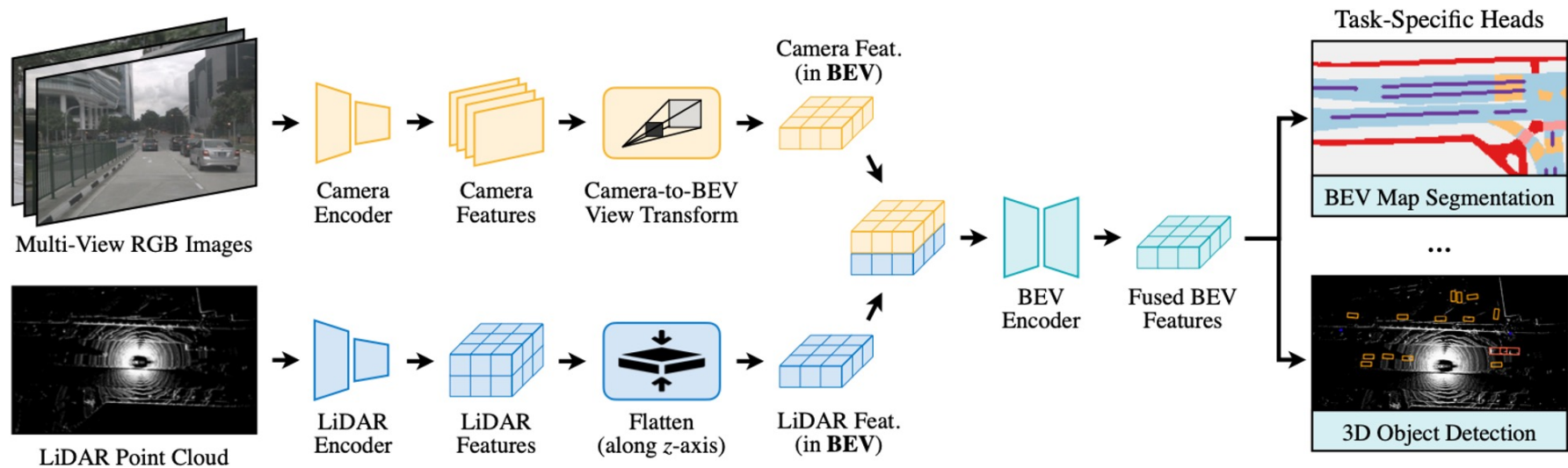
BEV Fusion과 FrustumNet



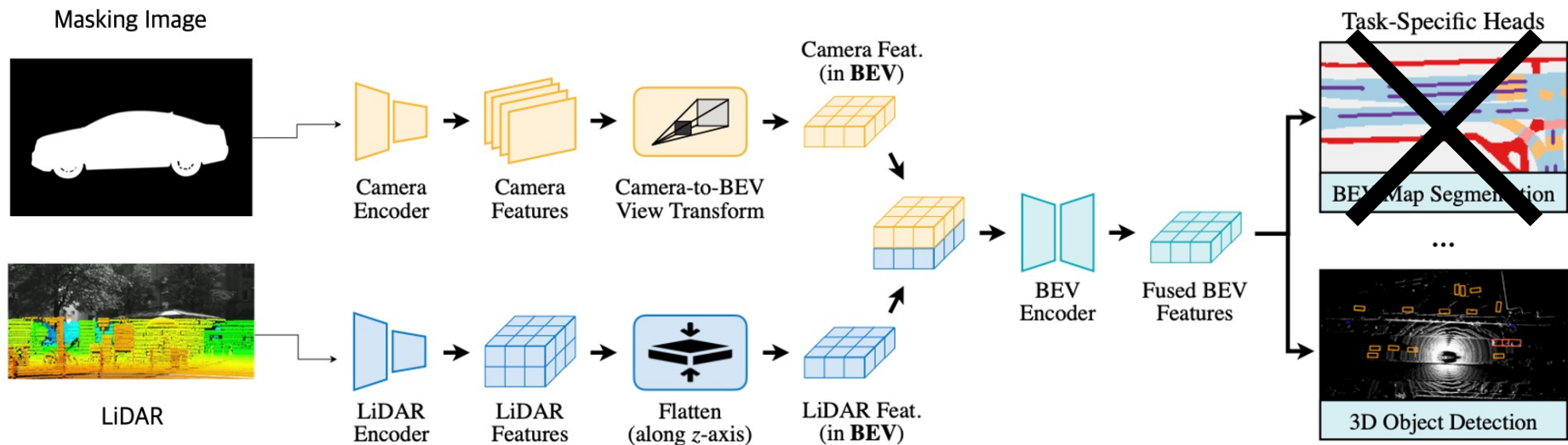
BEV Fusion과 FrustumNet



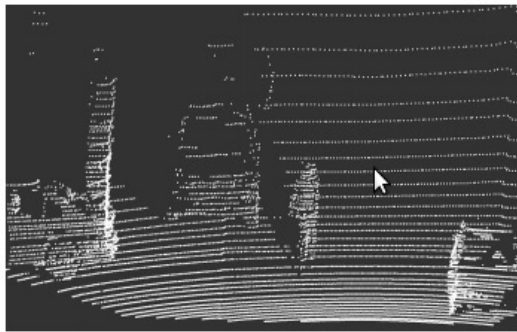
BEV Fusion과 FrustumNet



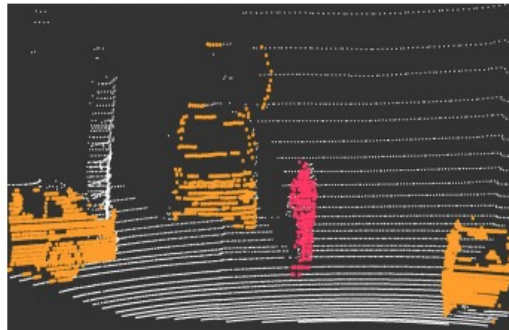
BEV Fusion과 FrustumNet



PointPainting

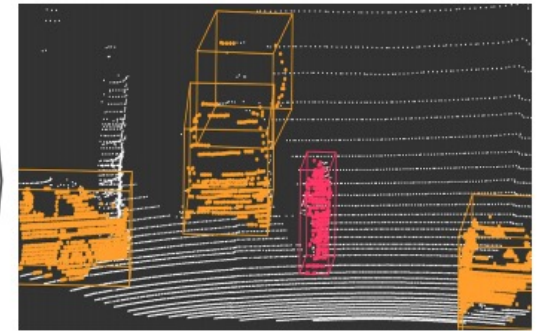


2
Point
Painting



3
Lidar
Detector

e.g.
Point-RCNN
PointPillars
etc



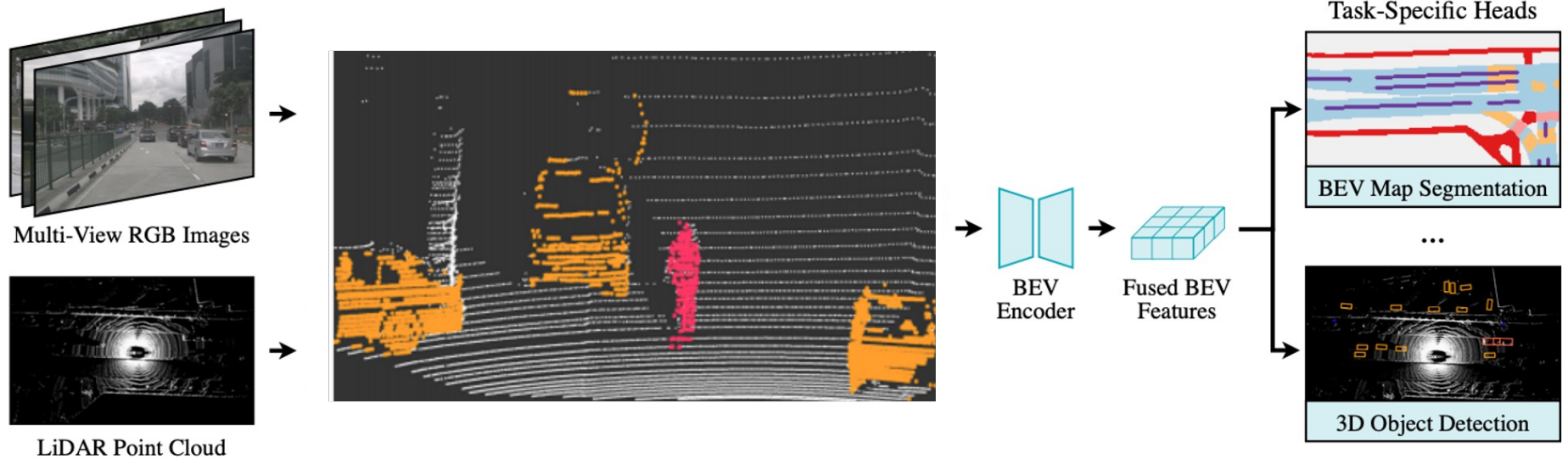
2
Point Painting



1
Sem. Seg



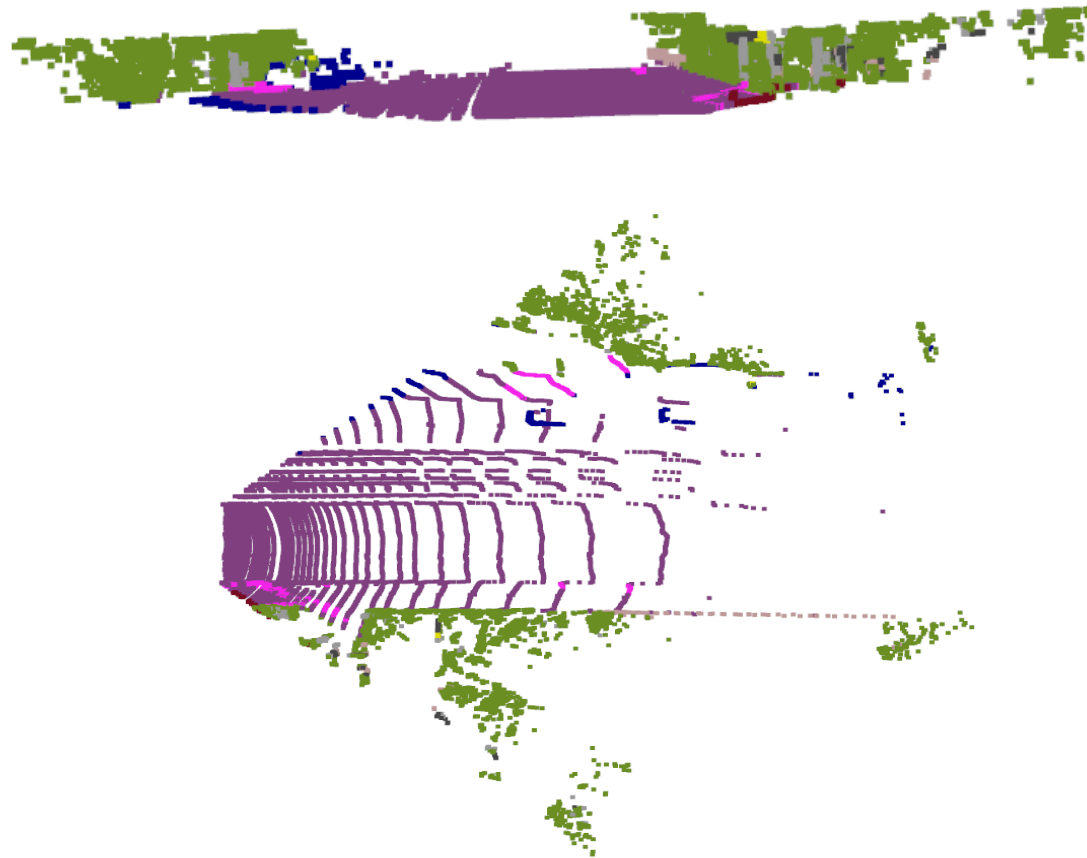
BEV Fusion과 PointPainting



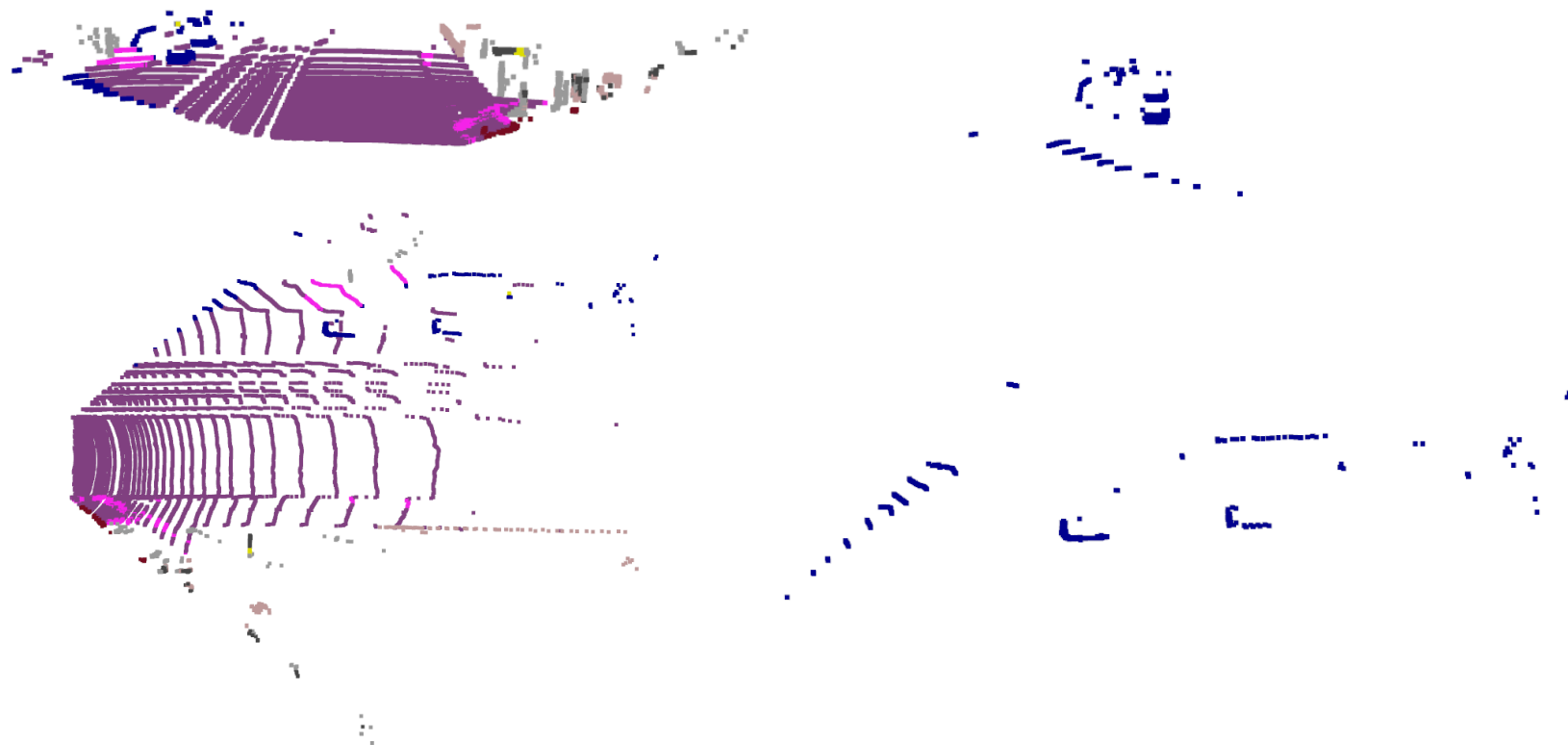
BEV Fusion과 PointPainting



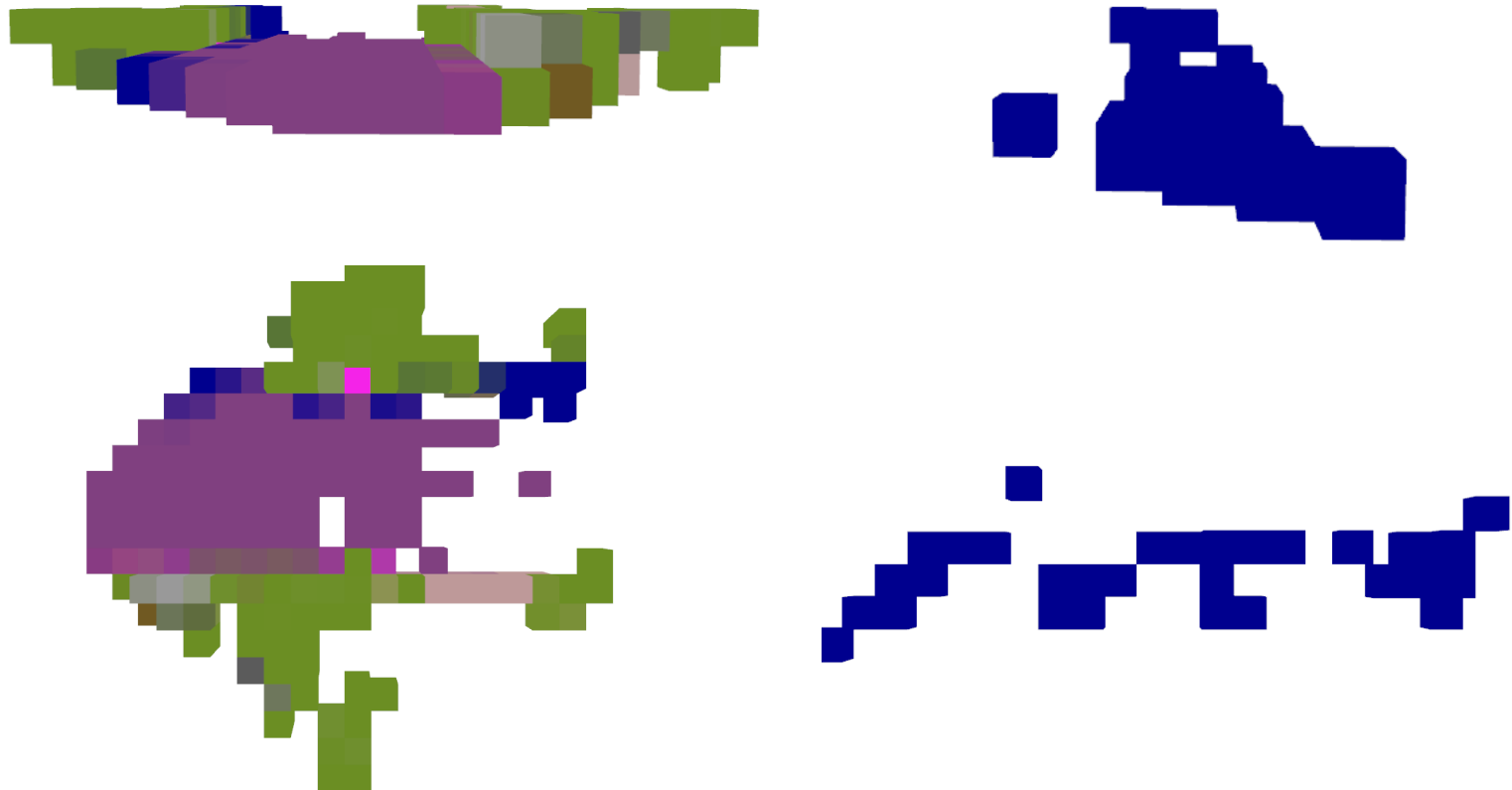
BEV Fusion과 PointPainting



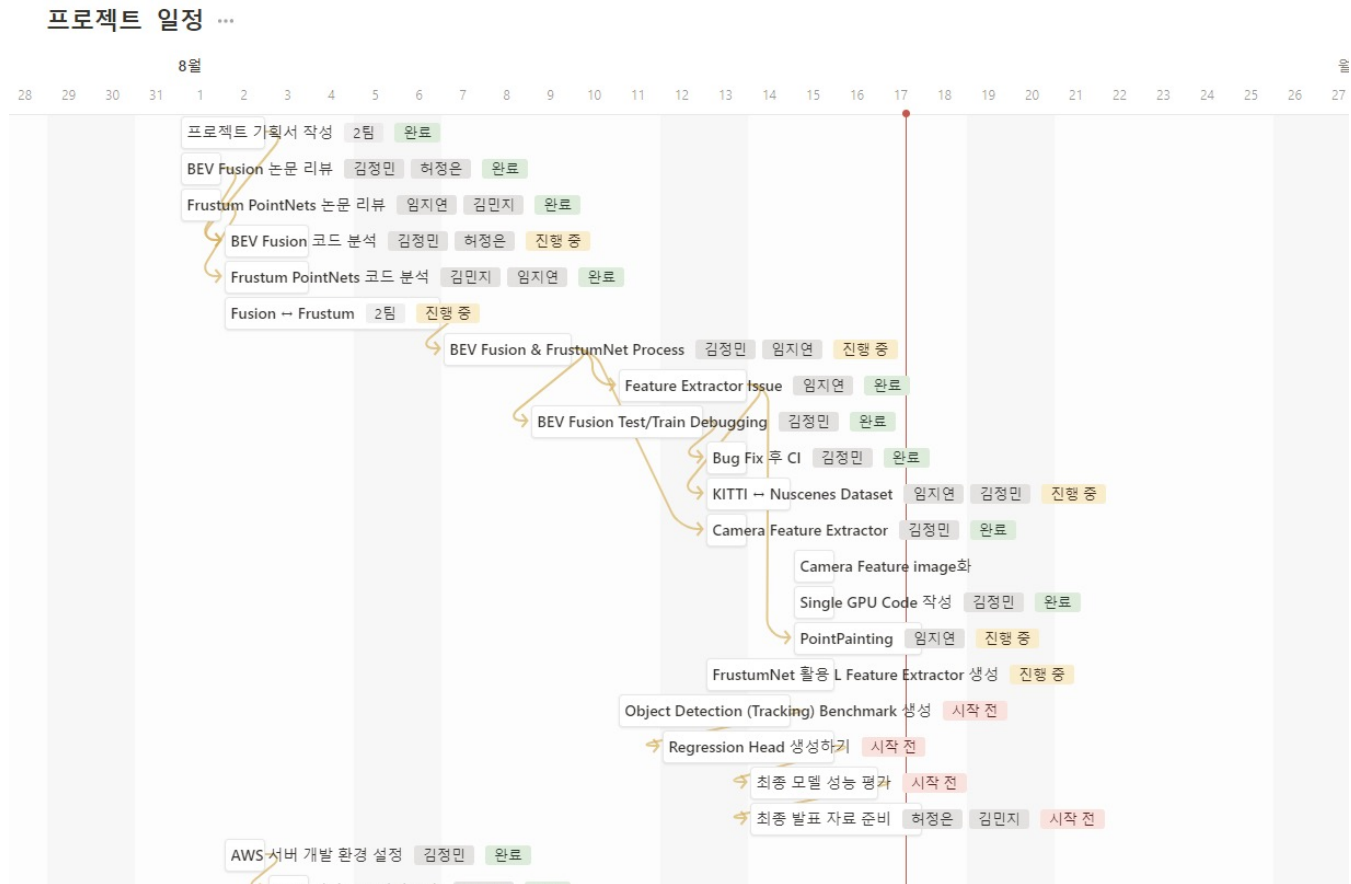
BEV Fusion과 PointPainting



BEV Fusion과 PointPainting



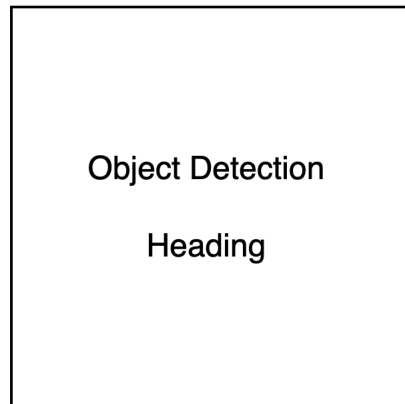
Project Dev Environment 구축



Project Dev Environment 구축



BEV Fusion BugFix



Add BEVFusion-R #443

Merged zhijian-liu merged 4 commits into `main` from `bevfusionr` on Jul 8

Conversation 1 Commits 4 Checks 0 Files changed 30

Commits on Jun 23, 2023

Initial commit

K-Shao committed on Jun 23

Commits on Jun 24, 2023

Cleanup

K-Shao committed on Jun 24

Commits on Jun 25, 2023

more cleanup

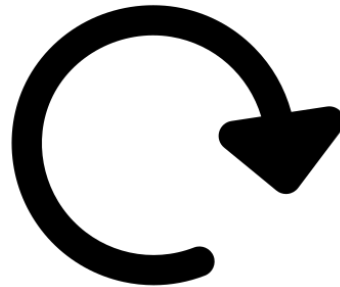
K-Shao committed on Jun 25

More cleanup

K-Shao committed on Jun 25

BEV Fusion BugFix

Major Release Head (db75150717) Rollback



Git Reset --hard

BEV Fusion BugFix

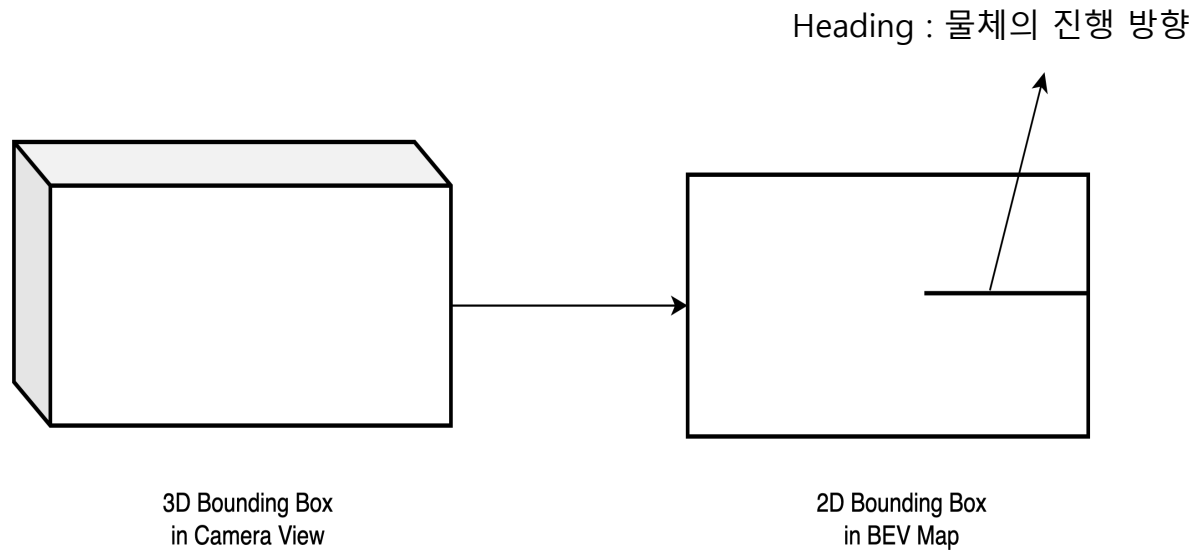
Caution! Data Loss, Package loss



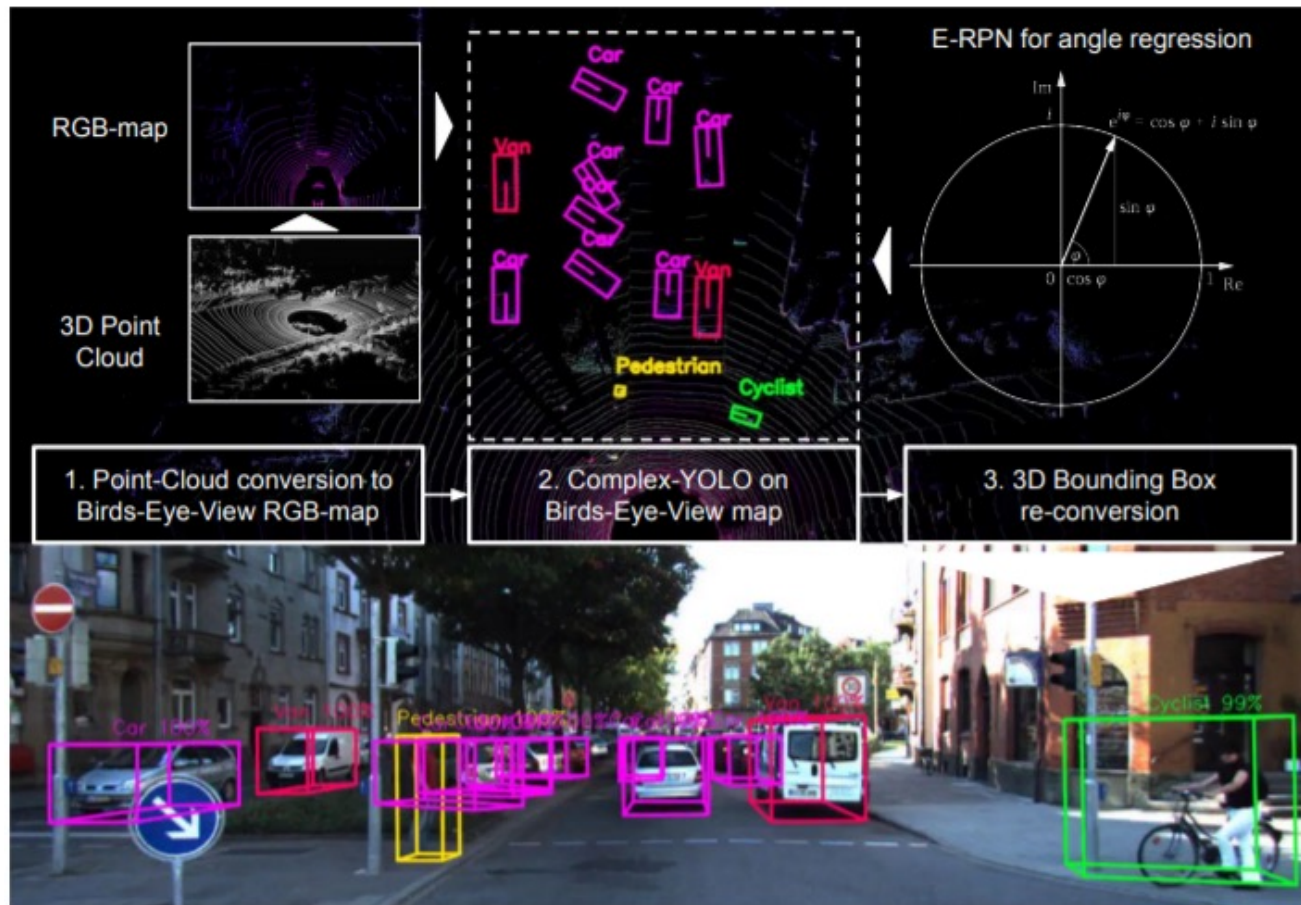
Create_data.py

```
mkdir data
cd data && mkdir nusences && nusences
ln -s ../../../../BevFusionDataSet/sweeps sweeps
ln -s ../../../../BevFusionDataSet/samples samples
ln -s ../../../../BevFusionDataSet/maps maps
ln -s ../../../../BevFusionDataSet/v1.0-mini v1.0-mini
```

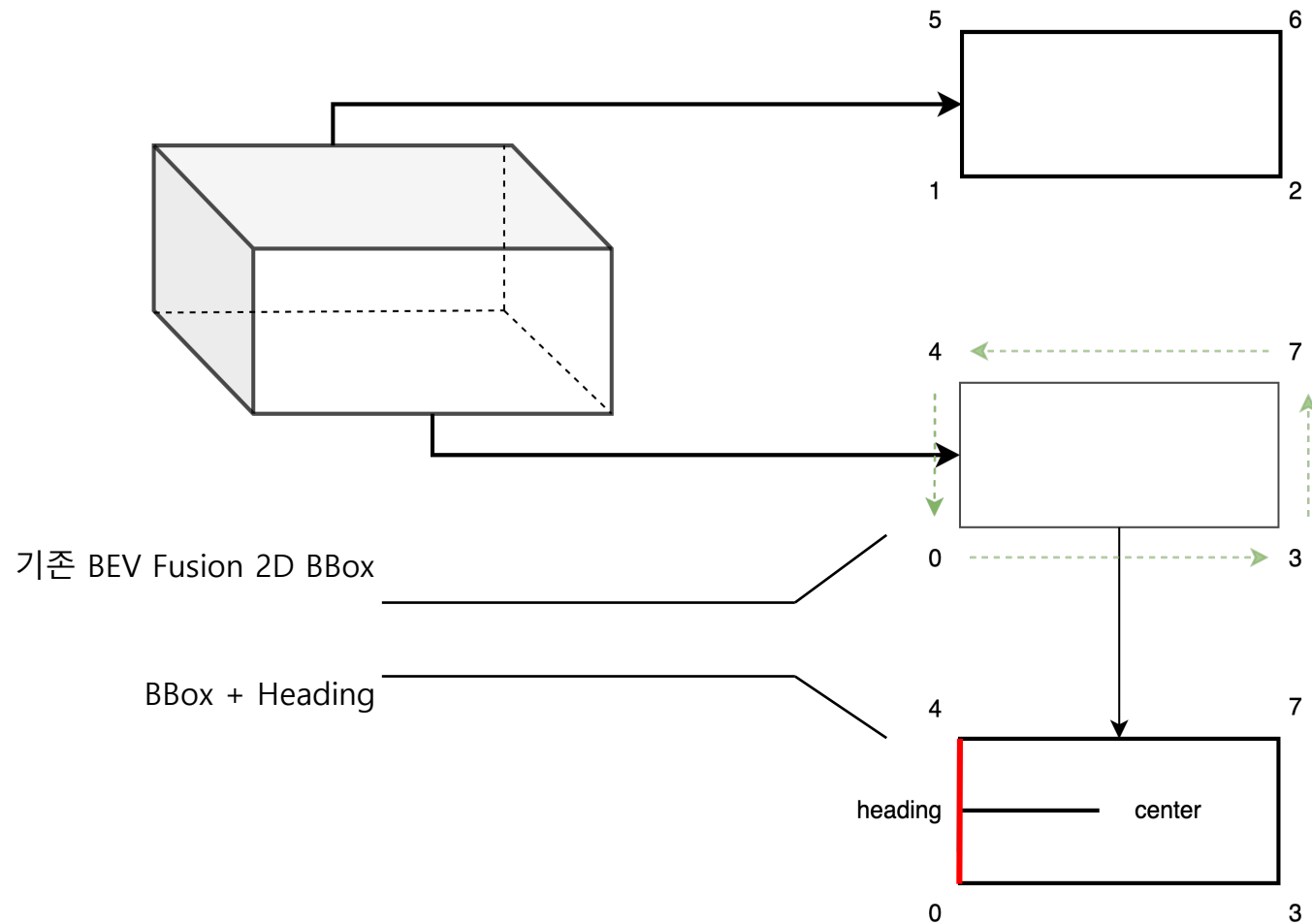
2D Bounding Box Heading



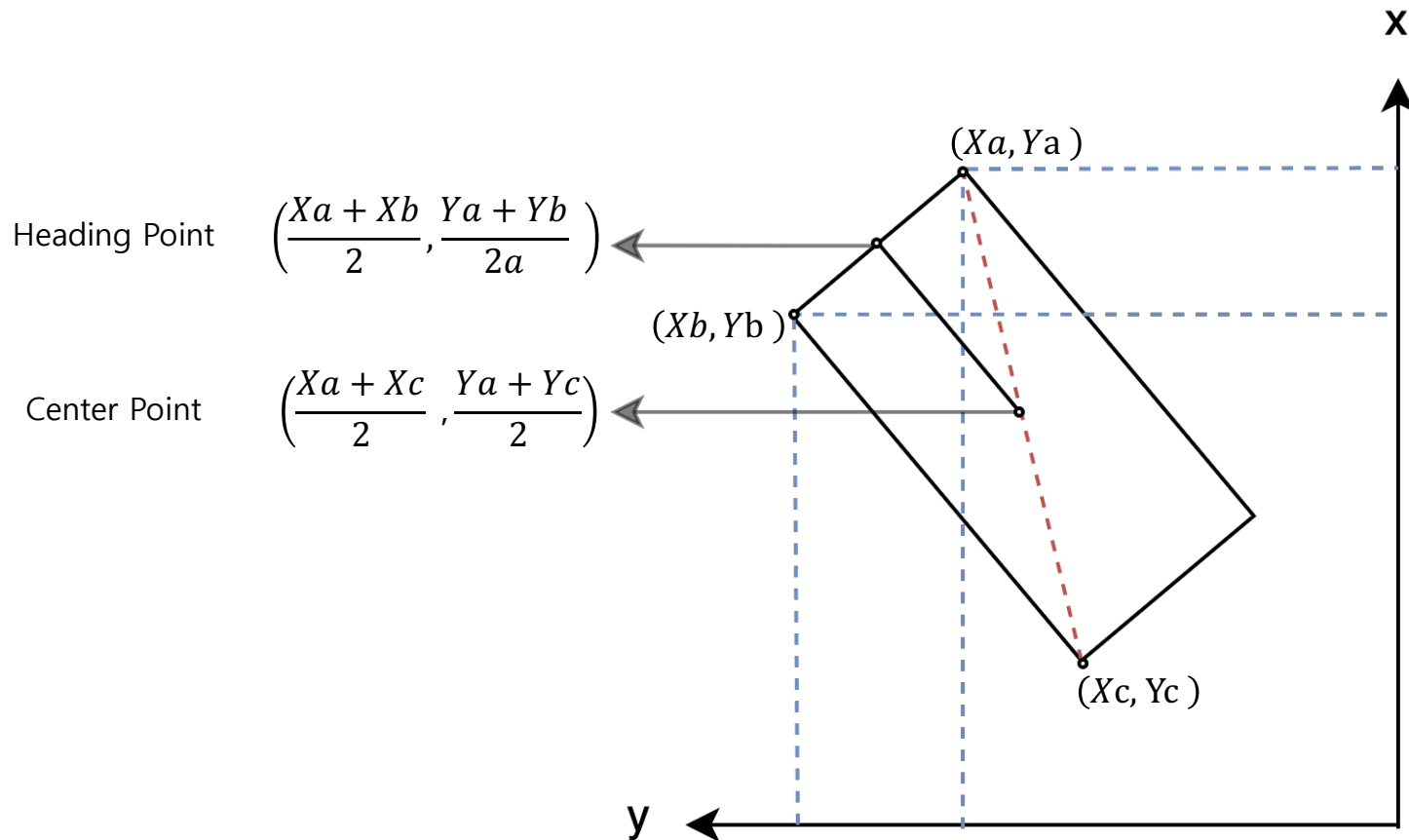
2D Bounding Box Heading



2D Bounding Box Heading

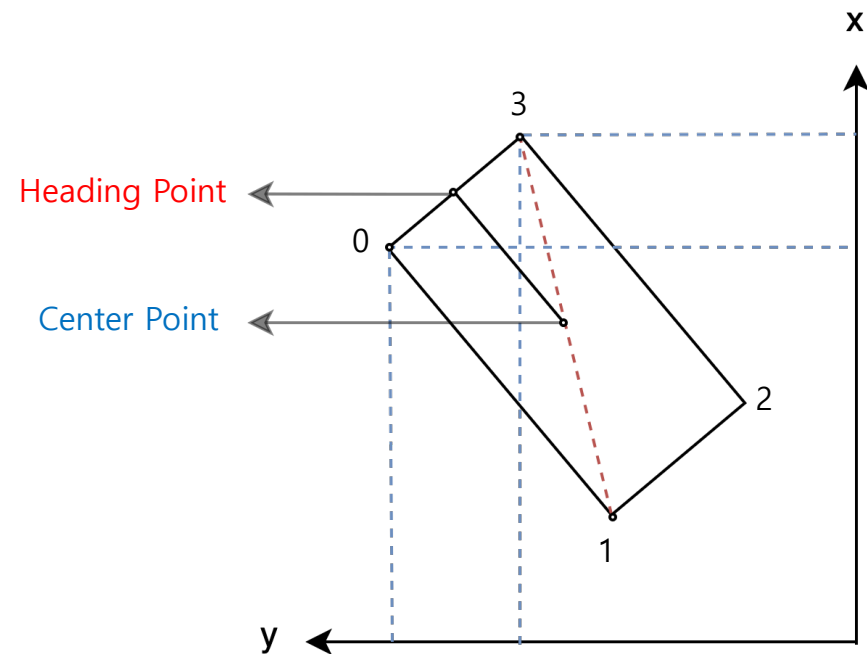


2D Bounding Box Heading

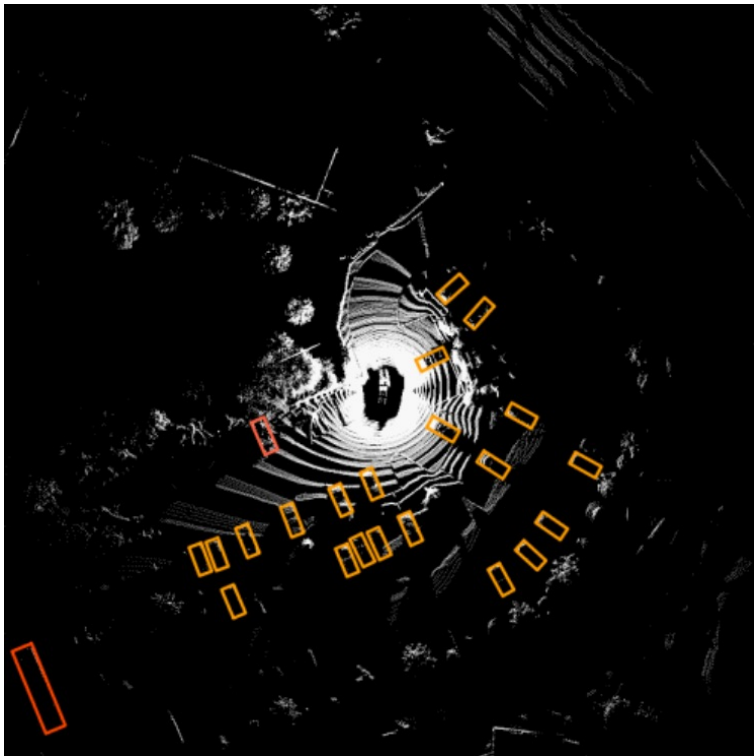


2D Bounding Box Heading

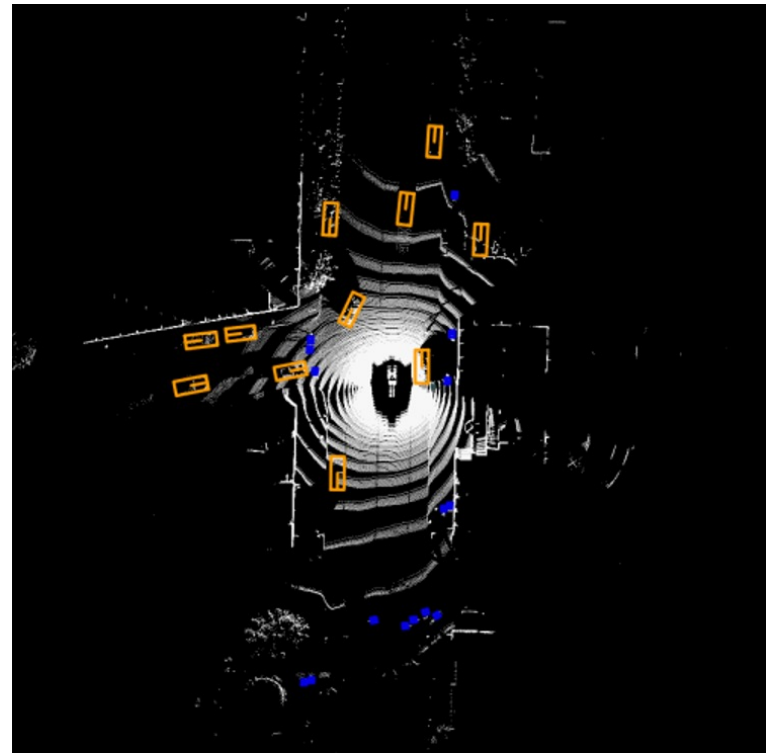
Coords = $\left[\left[\left[\text{red box} \right], 0 \right], \left[\left[\text{blue box} \right], 1 \right], \left[\text{ , } \right], 2 \right], \left[\left[\text{red box} \right], 3 \right], \left[\text{ , } \right], 0 \right], \dots \left[\dots \right], \dots \right]$



2D Bounding Box Heading



기존 BEV Fusion 2D BBox



BBox + Heading

2D Bounding Box Heading



Q & A