Make it possible to change L-Shape Fitting algorithm resolution parameter #2639

Answered by VRichardJP **VRichardJP** asked this question in **Feature requests**

VRichardJP on May 31, 2022 Collaborator

The bounding box shape estimator algorithm (L-Shape Fitting) relies on a hard coded `angle_resolution` parameter (delta in the original paper), which is currently set to 1 degree:

https://github.com/autowarefoundation/autoware.universe/blob/a128844842eb9c05679ed96a2591402b238d33a/perception/shape_estimation/lib/model/bounding_box.cpp#L86

```
constexpr float angle_resolution = M_PI / 180.0;
```

This parameter is very important, as the whole `BoundingBoxShapeModel::estimate()` almost varies linearly with it: on my machine, the shape estimator takes up to 50ms for only one vehicle with the default value, whereas it takes less than 15ms when the resolution is set to 3 degree (`M_PI / 60.0`).

Considering the impact it can have on the performance, I think it would make sense to add it to the shape_estimator parameters.

↑ 1

Answered by **VRichardJP** on Jun 2, 2022

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VRichardJP on Jun 2, 2022 Collaborator Author

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