

# 3D Bounding Box Regression

## Project Progress Report



이지민



# Overview

1. Project Overview
2. Paper Reviews
3. Timeline
4. Milestones Achieved
5. Milestones Remaining



# Objective

---

3D bounding box regression 성능 향상

새로운 방법을 구현 하기 위해 기존 방법들 조사

# Paper Reviews

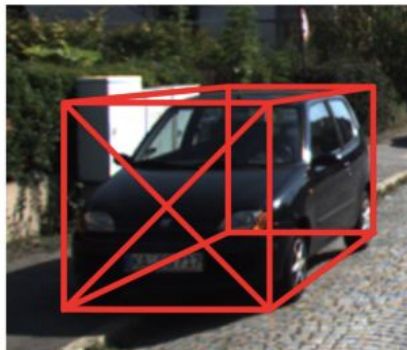
## 3D Bounding Box Estimation Using Deep Learning and Geometry

Arsalan Mousavian\*  
George Mason University  
amousavi@gmu.edu

Dragomir Anguelov  
Zoox, Inc.  
drago@zoox.com

John Flynn  
Zoox, Inc.  
john.flynn@zoox.com

Jana Košecká  
George Mason University  
kosecka@gmu.edu

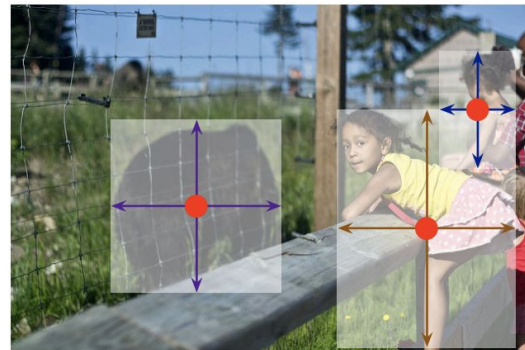


## Objects as Points

Xingyi Zhou  
UT Austin  
zhouxy@cs.utexas.edu

Dequan Wang  
UC Berkeley  
dqwang@cs.berkeley.edu

Philipp Krähenbühl  
UT Austin  
philkr@cs.utexas.edu

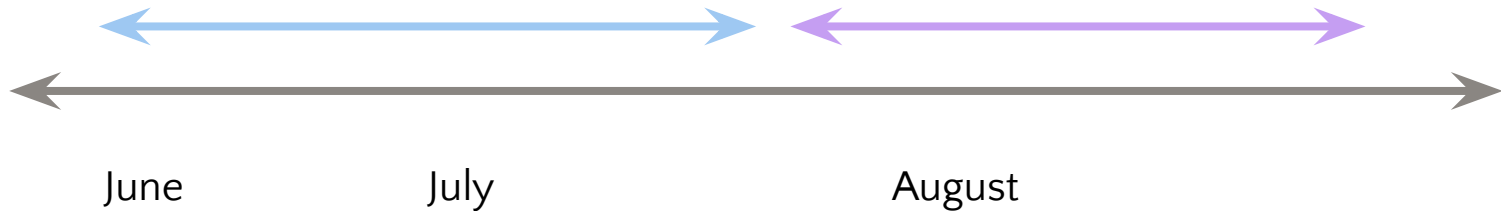




# Timeline

Open source에 있는 모델들을  
KITTI dataset에 train + test 시키기

3D bounding box regression  
구현 및 학습하기





## Milestones Achieved

1st Week 6/20-6/24	<ul style="list-style-type: none"><li>• 2D object detection - Faster R-CNN 논문 공부</li><li>• 3D bounding box regression 논문 공부</li></ul>
2nd Week 6/27-7/1	<ul style="list-style-type: none"><li>• 2D mmdetection (open source)에서 주어진 Faster R-CNN model을 COCO dataset에 inference, mAP evaluation</li><li>• “3D Bounding Box Estimation Using Deep Learning and Geometry” Paper Review</li></ul>



## Milestones Achieved

3rd Week 7/4-7/8	<ul style="list-style-type: none"><li>• Faster R-CNN model을 COCO dataset에 training, testing</li><li>• KITTI dataset annotations를 COCO dataset annotations format로 변환시키는 방법 조사</li><li>• 3D bounding box regression 논문 공부</li></ul>
4th Week 7/11-7/15	<ul style="list-style-type: none"><li>• 2D mmdetection 코드 공부</li><li>• kitti2coco.py 스크립트 작성 (진행 중)</li><li>• “Objects as Points” Paper Review</li></ul>

# Results





## Milestones Remaining



5th Week 7/18-7/22	<ul style="list-style-type: none"><li>• Faster R-CNN model을 KITTI dataset에 training, testing</li><li>• 3D bounding box regression 논문 공부</li></ul>
6th Week 7/25-7/29	<ul style="list-style-type: none"><li>• 기존 3D bounding box regression 방법 공부, 개선할 점 찾기</li><li>• Paper Review</li></ul>
7th Week 8/1-8/5	<ul style="list-style-type: none"><li>• 기존 3D bounding box regression 방법 개선, 구현하기</li></ul>
8th Week 8/8-8/12	<ul style="list-style-type: none"><li>• 구현한 3D bounding box regression 방법으로 학습하기</li><li>• Paper Review</li></ul>



**Thank you!**

**감사합니다! Q & A**