# **Monthly Meeting #1**1**:** Team **Meeting**

| **Meeting Date:** | Oct 3, 2023 8:15 PM | |
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| Meeting Time: | 8:15 PM ET | |
| Meeting Location: | Virtual | |
| Meeting Type: | Team Meeting | |
| Student Team Members: *(check box if in attendance)* | * Rachel * Vanessa * Kashish * Pamela * Elena * Nyah | |
| Other Attendees:  *(e.g., Challenge Advisor, TA)* |  | |

# MEETING AGENDA

1. Looking over Detection Model Zoo
2. Mini standup and progress updates

**Action Items**

Questions for Maria:

* Is one parameter more improveable than the other?
  + transfer learning improves the precision, but is there any way to improve the speed of a model?
* How does transfer learning make the model more efficient with the choice of dataset?

# MEETING NOTES

| **Discussion Topic** | **Notes** |
| --- | --- |
| * Looking over [Detection Model Zoo](https://github.com/tensorflow/models/blob/master/research/object_detection/g3doc/tf2_detection_zoo.md) “(tradeoff of speed and Average Precision). We will likely implement these in the next Maker Day” | * + Selecting 3 architectures to test - we want “*boxes*”   + Prioritize higher precision, low speed   + Note: COCO mAP = mean average precision (mAP) metric   Speed , mAP, Outputs,   * + - Faster R-CNN ResNet101 V1 1024x1024       * 72 37.1 Boxes     - SSD ResNet101 V1 FPN 640x640 (RetinaNet101)       * 57 35.6 Boxes     - EfficientDet D1 640x640       * 54 38.4 Boxes     - CenterNet Resnet101 V1 FPN 512x512       * 34 34.2 Boxes * COCO is a large-scale object detection, segmentation, and captioning dataset. COCO has several features:   + Object segmentation   + Recognition in context   + Superpixel stuff segmentation   + 330K images (>200K labeled)   + 1.5 million object instances   + 80 object categories   + 91 stuff categories   + 5 captions per image   + 250,000 people with keypoints   + <https://cocodataset.org/#home> |
| Create the training set using only images that include pedestrians and cyclists |  |

# ACTION ITEMS

| **Task/Assignment** | **Team Member** | **Deadline** |
| --- | --- | --- |
| Send Maria a progress report before Maker Day | Student team | Oct 6, 2023 |
| Look at the nuScenes devkit and pip install it | Student team | Oct 6, 2023 |
| Run the nuImages tutorial example - can access from GitHub and open in Google Colab | Student team | Oct 6, 2023 |
| Do TensorFlow tutorials on image classification and object detection | Student team | Oct 6, 2023 |
| Create training set with images that only include pedestrians and cyclists | Student team |  |
| (If there is time before Maker day):  MATLAB Onramp (Computer Vision and Deep Learning) <https://docs.google.com/document/d/1PBFZTiRq0m_T9M97nGj6skKP2X7fCKONHFAi_wVRf_Q/edit?usp=sharing> | Student team | Oct 7, 2023 |
| Email Malorie for September deliverable doc | Kashish | Oct 4, 2023 |
| ~~Look at Detection Model Zoo and select 3 architectures to test~~ | ~~Student team~~ |  |
| Maria will upload to Google Colab a template notebook for transfer learning | Challenge Advisor Maria |  |