# **Monthly Meeting #10: Challenge Advisor Meeting**

| **Meeting Date:** | Sep 30, 2023 | |
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| Meeting Time: | 9:00am ET | |
| Meeting Location: | Virtual | |
| Meeting Type: | Challenge Advisor Meeting | |
| Student Team Members: *(check box if in attendance)* | * Rachel * Vanessa * Kashish * Pamela * Elena * Nyah | |
| Other Attendees:  *(e.g., Challenge Advisor, TA)* | Challenge Advisor | |

# MEETING AGENDA

1. TensorFlow, deep learning, computer vision and other questions
2. Dataset and progress
3. Next steps and timeline

# MEETING NOTES

| **Discussion Topic** | **Notes** |
| --- | --- |
| Upcoming Meetings | * Maria would like to join next TA meeting   + UPDATE: Maria will come to Maker Day |
| Dataset | * Level of detail for pedestrians is crazy, but less for other cars * For cyclists, we are more interested in cycles.with\_rider than cycles.without\_rider * Installing devkit gives you access to more classes * Maria personally likes working in a local instance   + Local has more computational power than Google Colab   + If we need help with getting things installed, she can provide instruction * We could run on an HPC network if we want, but we have many decisions we need to make in the process   + Maria thinks we can do the project without an HPC if needed * Not all images will contain pedestrians   + So we should select the images we care about * The annotations matter bc we don’t need to spend the time to label our data * The work we need to do is extract the info that matters for the problem we’re trying to solve (detect pedestrians and maybe cyclists) |
| TensorFlow | * Transfer learning - take an existing model and modify for our needs   + Maria says this will be useful for future projects as well * When you install tensorflow, you can also install GPU? * We are doing “object detection” * We can use a model that has already been trained to do image classification, and then train it for our project * Steps:   + Data prep → where we’re at right now   + Training preparation   + Training     - Will require some computational power, later we can decide how and which machine to use     - We will pick 2 pre-trained object detection models from tensorflow detection model zoo   + Evaluation * Make sure object detection API is installed (can do later) bc it’ll make things easier |

# ACTION ITEMS

| **Task/Assignment** | **Team Member** | **Deadline** |
| --- | --- | --- |
| Send Maria a progress report before Maker Day | Student team | Oct 7, 2023 |
| Look at the nuScenes devkit and pip install it | Student team |  |
| Run the nuImages tutorial example - can access from GitHub and open in Google Colab | Student team |  |
| Do TensorFlow tutorials on image classification and object detection | Student team |  |
| Create training set with images that only include pedestrians and cyclists | Student team |  |
| 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 |  |