Meeting 29-03-2021

**Summery by:**

Daniel Tøttrup

**Time and place:**

29-03-2021 – Zoom

**Participants:**

Daniel Tøttrup

Stinus Lykke Skovgaard

Jonas Le Fevre

Rui Pimentel de Figueiredo

**Agenda:**

* Weekly meeting

**What we did and found out last week:**

* We could only find one implementation (written in tenserflow) which is a bit problematic in terms of understanding the code
* TrackR-CNN is way too slow for real-time (2fps for 1080ti CPU)
* We do not have out own data for tracking, so for now we have only tested on public data. (KITTI data for instance segmentation object tracking)
* We have used some time on writing
* We are uncertain in which direction to go next? – Should we look for another algorithm for tracking. Does it have to be instance segmentation object tracking – or is object tracking enough?

**Summery:**

* **We need to get a better understanding output of the TrackR-CNN**
* **One way to move forward could be getting the velocity of the object in an image, this can be done by extracting bounding box coordinates over time.**
* **Maybe investigate simple object tracking problem (data association)** 
  + **Next step, look at Kalman filter for object tracing and estimation**
* **Main goal: implement a tracking mechanism on a drone!**
  + **Next step: Output both position and velocity in an image plane.**
* **Creating video sequences**
  + **Simple:**
    - **Drone stands still**
    - **Vessel of interest is also fixed**
    - **Unknown objects are moving (small boats) Measure velocity and id (time for collision)**
  + **Bit more advanced**
    - **Drone stands still**
    - **Vessel of interest moves**
    - **Unknown objects move**
  + **Advance** 
    - **Everything moves**