Week 2 Protocol Notes

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0.0.1 Discussion

Discussion regarding the DS-Net having a problem with the prediciton of motion flow. Discussion regarding the difficulties:

- Missing Color for points not covered in image
- Most pretrained networks dont really fit the data (color, number of points, trained on different datasets)

0.0.2 Experiment: Downsampling

- We can try to downsample and put a bias on sampling the surrounding static stuff. To keep important data on moving parts – adaptive sampling. Introduce some hparams to optimize for
- We can also try to downsample via voxelization using open3D
- Will definitely influence the performance – predicted labels have influence on the downsampling so first use the GT label data to downsample, And evaluate with metrics (PQ....)
- Idea for some later work: Adapting RAFT to lidar-based 3D input and 3D output to predict motion flow.

0.0.3 Experiment: Adaption of DS-Net Backbone

- Try to modify and remove the mutli GPU,SLURM method (prob. Reduced performance)
- Make the python logic alignment-based single scan method applicable to other backbones and evaluate the performance.
- Maybe evaluate the generalizability of n-scan alignment

0.0.4 Report Improvements:

- Introduce a chapter for the next steps.
- Make References