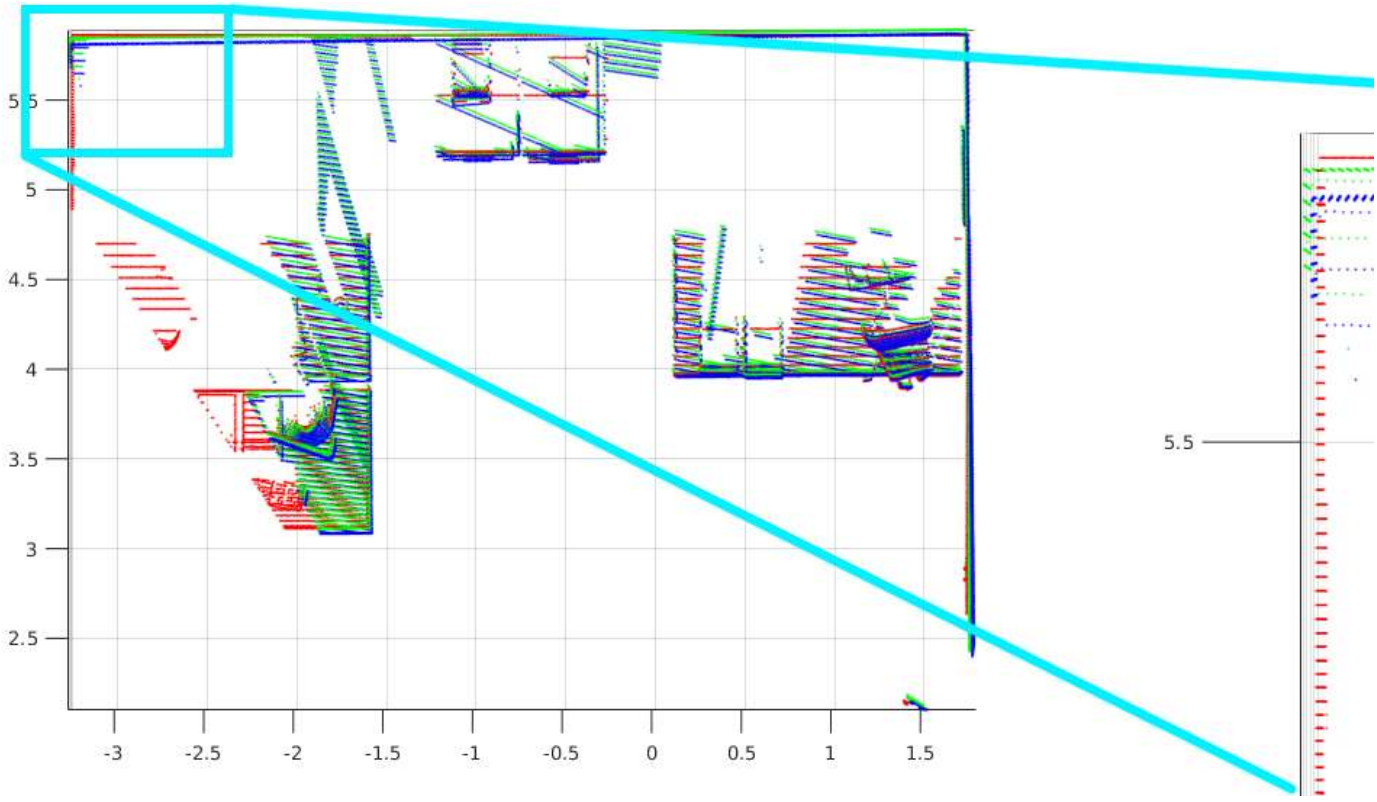
1130-EMARO-MSA-1006 # Computer Vision

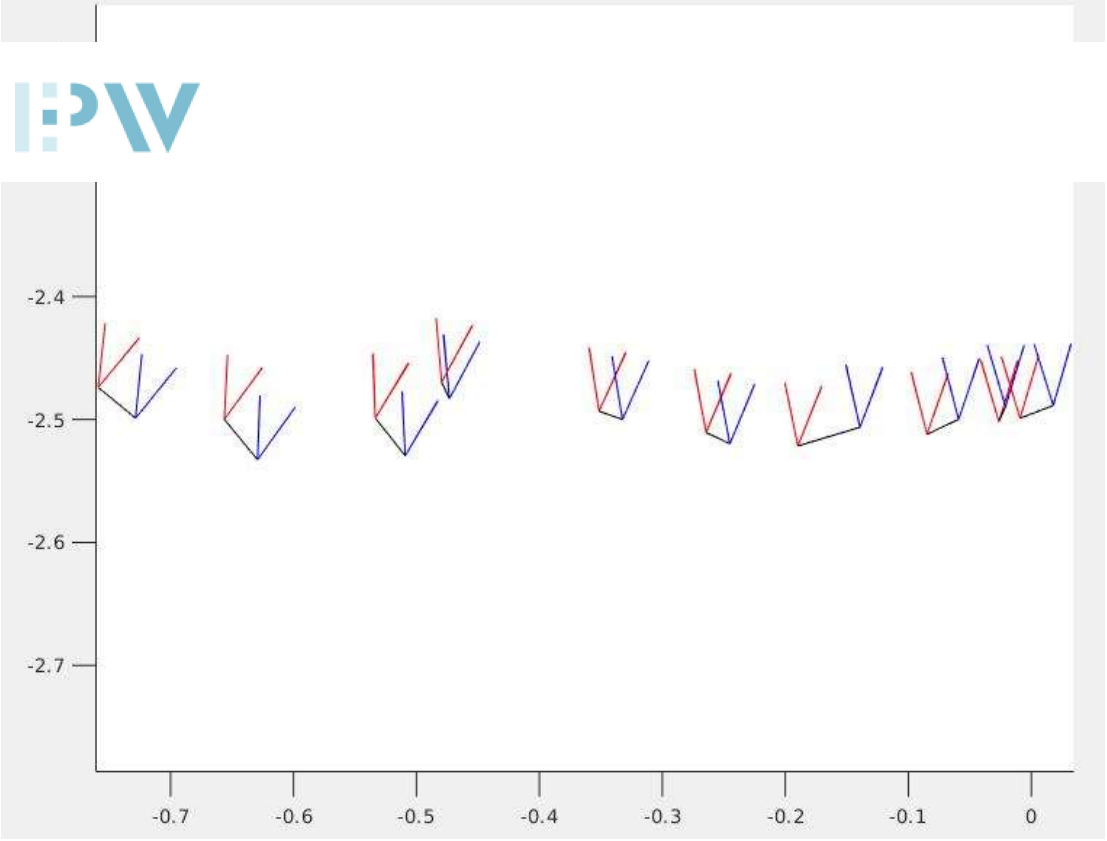
T6: RGB-D registration (2)

You have to implement the pairwise transformation estimation between the pairs of frames. In the test file, you can find the new test (last one), which loads two frames, calls the RanSaC, and then refines this transformation. For every case, you have the clouds displayed with different colors so that you can have the visual reference.

The new part you have to implement is the transformation refinement. The initial version of this function is given in the file, you have to extend it with more parameters (e.g. tolerance or metric). On the image below, the red cloud is the reference (fixed) frame, the blue one is the current (moving) frame after the RanSaC, and the green cloud is the current (moving) frame after application of the ICP refinement.



The provided main file calls all the functions you have prepared so far. As the result, it plots two camera paths: the red one is a reference (read from the traj.txt file) and the blue one is calculated using your methods. Paths should be close to each other, but some misalignment can occur. To control, whether the refinement step is calculated, use the variable **do_refine** defined in the line 13.



On the attached plot only the first ten camera positions are shown, but the code after running will plot the whole trajectory.

main.m	25 stycznia 2022, 09:50
refineTransform.m	23 stycznia 2021, 15:42
test.m	25 stycznia 2022, 09:45