

Re: More data?

Lotem Nadir <lotemn@campus.technion.ac.il>

Sat 8/28/2021 1:11 PM

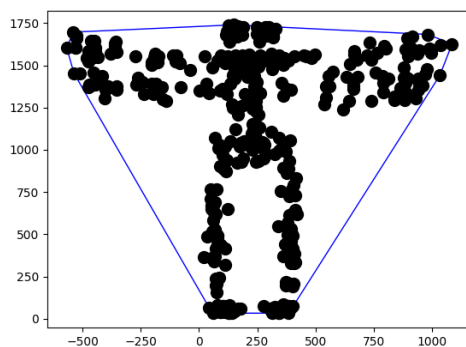
To: Ron Kimmel <ron@cs.technion.ac.il>

Cc: Maayan Agmon <Agmon.mn@gmail.com>

Hi,

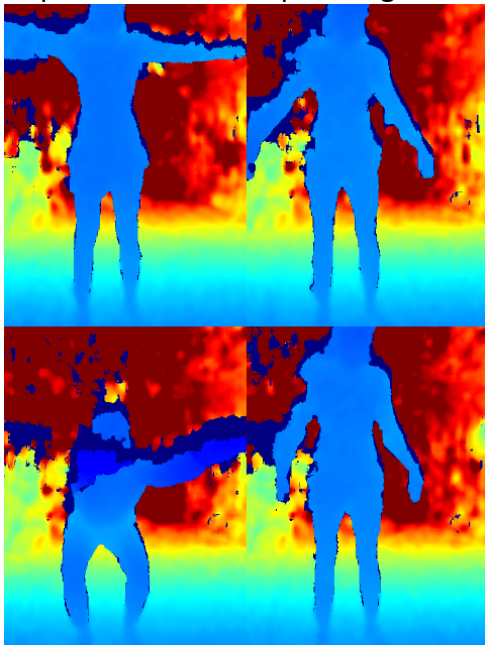
Thanks for you answer.

1. Convex hull - Do you mean viewing the convex hull of the **entire** points in the data? I'm guessing no. I've created the convex hull of several frames from the same position over multiple subjects. For example, all points from the first frame of "Stand" position of all subjects :



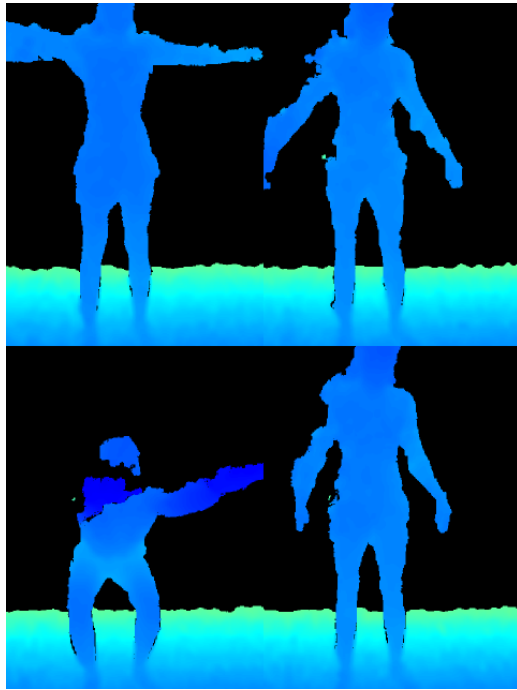
Is that what you meant?

2. Depth noise - Raw depth images are a bit noisy:



You can see that there is kind of halo surrounding the object. I think it might be due to measurement errors in the sensor, or numeric errors in realsense alignment algorithm, since all these depth values are 0... Also, I think we should consider removing the background in those images. We want the model to learn the relative depth differences between the object's body parts, and not the relative depth differences between the object and the wall behind him for example... Do you think removing the background from the depth images is a good idea?

The background (and the halo) can be removed by using the objects distance from the camera as threshold:



Lotem

From: Ron Kimmel <ron@cs.technion.ac.il>
Sent: Monday, August 23, 2021 7:15 PM
To: Lotem Nadir <lotemn@campus.technion.ac.il>
Cc: Maayan Agmon <agmon.mn@gmail.com>
Subject: Re: More data?

Hi Lotem,
Thanks for the update.
Would be enough as a function of the accuracy diversity and the quality of the data. In a nutshell, you should be able to operate within the "convex hull" of your data.
Can you view it? How "clean" are the depth profiles?

Best
Ronny

Sent from my iPhone

On 23 Aug 2021, at 19:02, Lotem Nadir <lotemn@campus.technion.ac.il> wrote:

Hi,

I have finished cleaning the data I've had (subjects 1-15). We have 83,203 frames. Each frame has:

- rgb image
- 16-bit depth map

- 39 (or less) 3d points

I am not implementing the data augmentation script for the moment, since I think we might need different augmentation methods for different model architectures (especially single-frames vs. frames-sequences).

Omer has on his laptop 9 more sessions, I'll clean them after Omer comes back from 7"n. Overall, I expect us to have ~135,000 frames.

Do you think this data is enough?

Lotem