Full Body Capture Tips

Below there are several recommendations regarding **full body capture** based on AgiSoft team experience with such data:

Capturing scenario:
- Capture system should consist of 50+ well synchronized DSLR cameras;
- Number of "blind-zones" should be minimized since Metashape is able to reconstruct geometry visible from at least two cameras. *Camera placement and zone overlap should be planned carefully*;
- Each photo should effectively use the frame size: object of interest should take up the maximum area. In some cases portrait camera orientation should be used;
- Good lighting is required to achieve better quality of the results, yet blinks should be avoided. It is recommended to remove sources of light from camera fields of view;
- The object should contrast against the background; blinks from the background on the object surface should be avoided. Starting from 0.9 version Metashape (PhotoScan) has mask-by-background feature, that allows automasking for fixed cameras, providing that "empty" shots for every camera are taken without the present of the object of interest. The background should be kept unchanged during object shooting;
- Do not try to place full object in the image frame, if some parts are missing it is not a problem whereas these parts appear on other images;
- Cameras should not be placed very close to each other, recommended distance between cameras is one tenth from the distance from camera to object.

Object specifics:
- Hair is difficult for reconstruction, using well textured hat (for example, knitting) is recommended;
- Using cloth with irregular texture pattern that could be distinguishable on photos is highly recommended: jeans, knitting, etc. Too dark as well as too bright cloth are not good. Avoid using synthetics, blinking shoes and other cloth with poor texture.

Lens:
- Fixed lens are preferred. If zoom lens are used – focal length should be set either on maximal or minimal value, if this condition is not provided each zoom-lens camera should be calibrated separately;
- Try to use minimal possible camera/lens models and different focal length.

Camera settings:
- Using RAW data losslessly converted to the TIFF files is preferred, since JPG compression induces unwanted noise to the images;
- Images should be taken at maximal possible resolution;
- Minimal possible ISO value should be used, otherwise high ISO values will induce additional noise to images;
- Aperture value should be high enough to produce the sufficient focal depth, it is important that most of object details are clearly visible and aren't blurred;
- Shutter speed should be fast enough to prevent blur caused by possible movements.

Images:
- Images should not be resized, rotated or anyhow transformed in terms of geometry. Metashape operate with the original images.