

Materials and Shaders for Avatars

The standard shader is not tailored to work on hard surfaces, not features that are found on many character models such as [skin](#), [hair](#), eyes or cloth. If you are going for a photorealistic style, it is best to seek out more specialized PBR shaders to suit your needs.

Heightmaps should generally be avoided on avatars. (They break at intense angles plus are more performance intensive. They are more ideal for certain use cases in environments, not typically on characters.) For more info on heightmaps, look at the [Materials for Worlds](#) page.

VRChat's shaders, mainly Standard Lite and Toon lit, are required for use on Quest Avatars. Outside of this use case they should generally be avoided.

Two of the most popular and versatile toon shaders for avatars are [Poiyomi's](#) and [Silent's](#).

Poiyomi has many features and has an extensive [video documentation](#).

Silent's also has many features and a [written documentation](#).

You can try out both for yourself and see which one you prefer.

Thickness map

Used for subsurface scattering (SSS), to simulate when light passes through a material. A great example of when to use it is for skin, leaves or cloth.

You can generate this map by [inverting the normals and baking ambient occlusion](#) in Blender.

You will need a custom shader to apply it, like Poiyomi, or both Silent's [photorealistic SSS](#) and toon shaders.