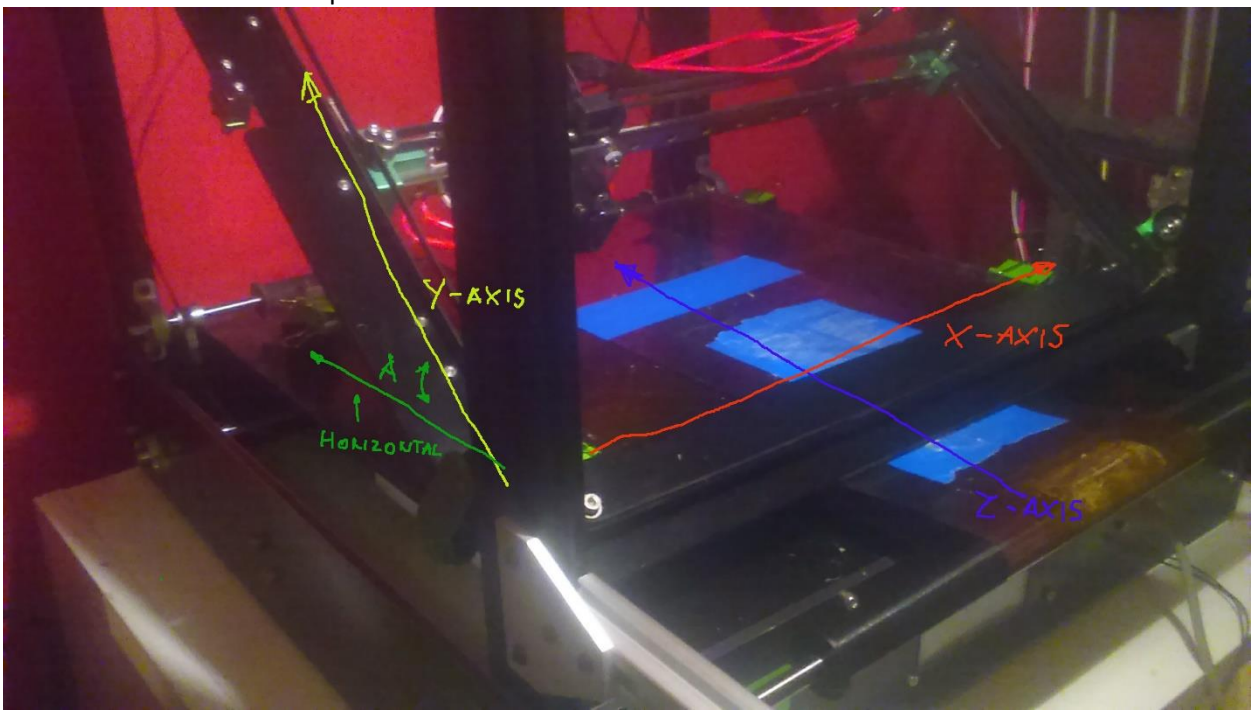
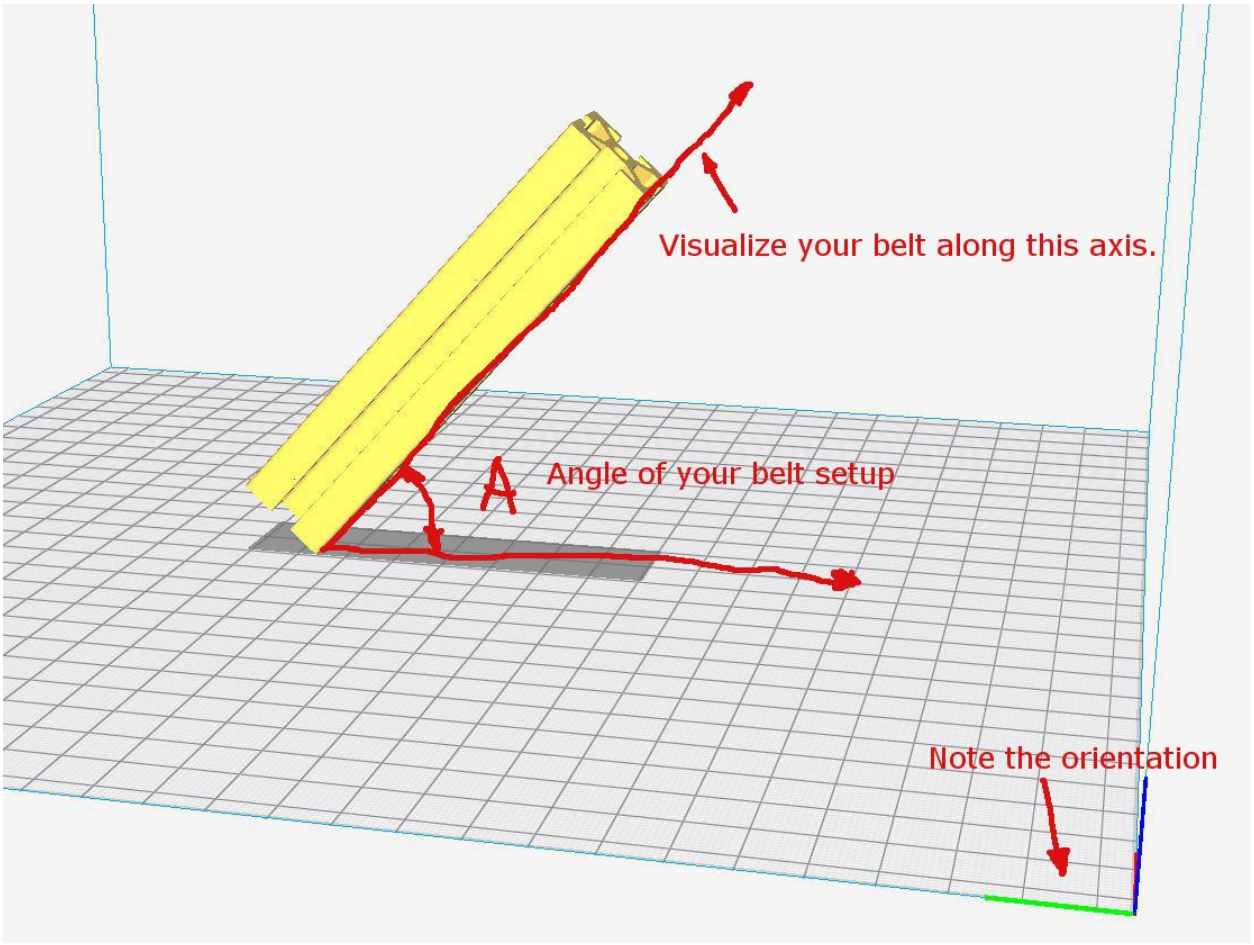
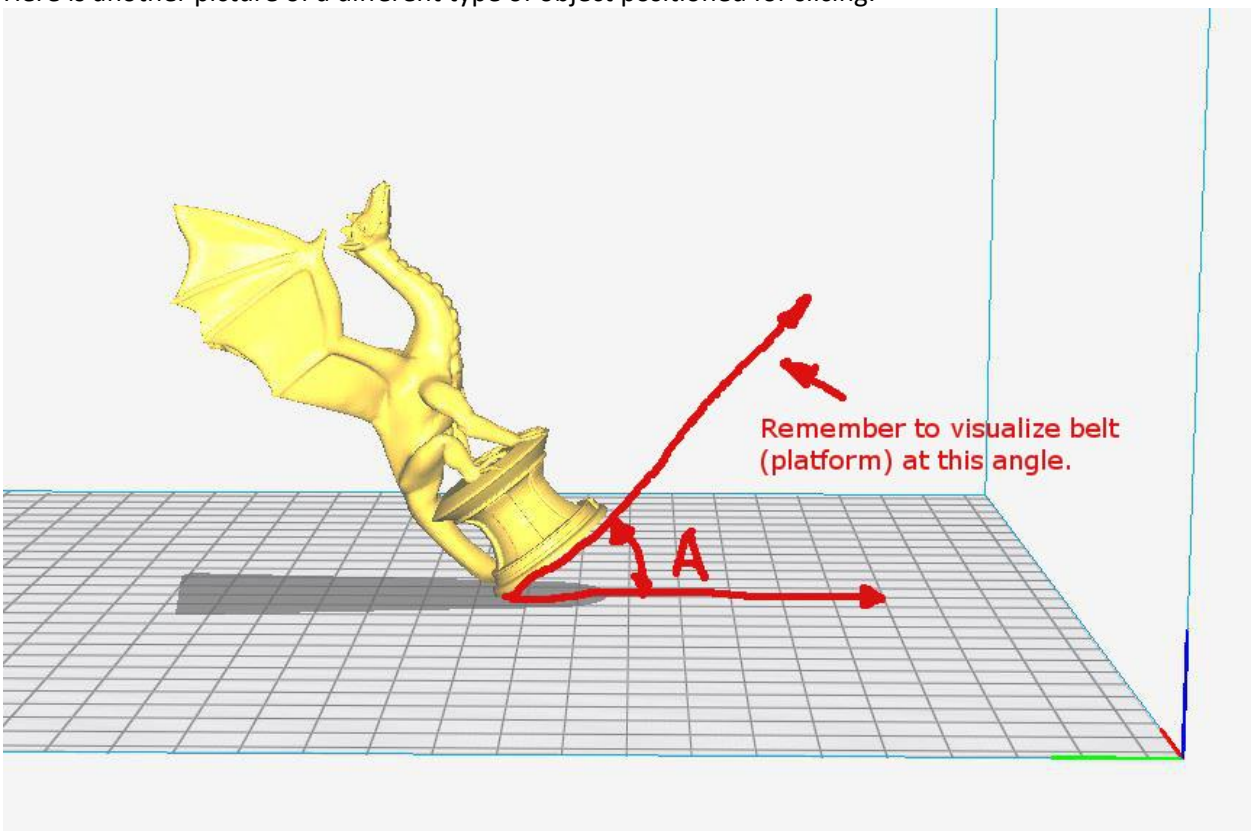
Hi!
This is the instruction how to prepare and parse GCODE files for continuous belt printing using Cura slicer and Belt Parser program. It will NOT work with any other slicer as it uses Cura verbose style to proccess commands, but it can be eventually modified to do so.
You start by noting the angle A between your belt platform and the angled stage. In my case belt is designated as Z-axis and 2 axes on the stage are X and Y respectively and the stage is angled at 38^0 angle. Belt Parser is built on the premisse that the belt is on Z-axis, X-axis moves hot end left and right and Y-axis moves hot end up and down.



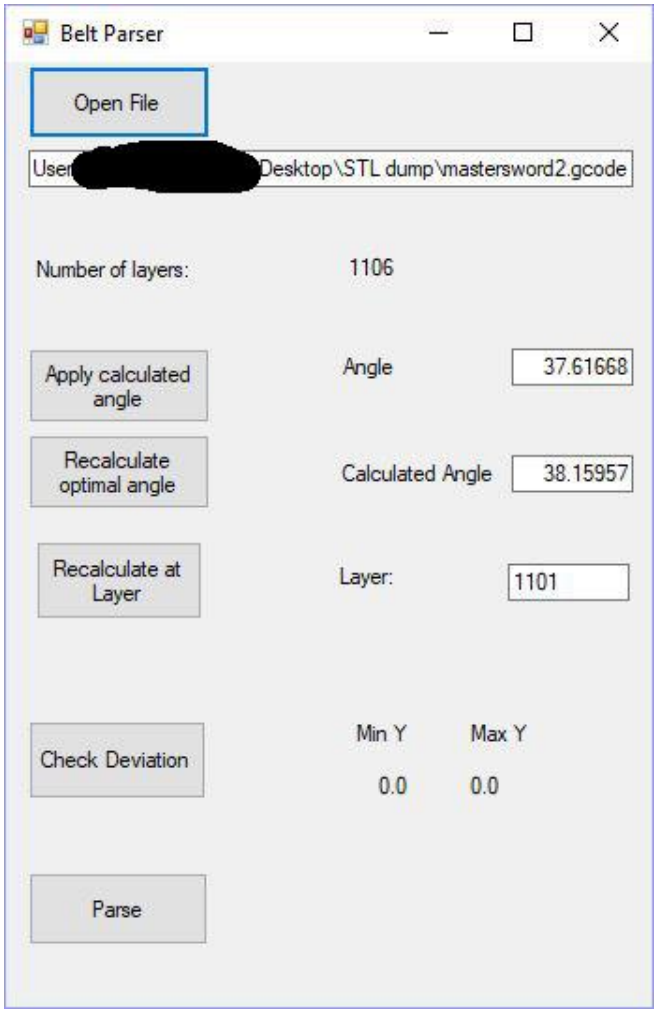
Next thing open Cura and load your model. In order to slice GCODE for belt printing you need to tilt the model at the angle A around the X-axis like this:



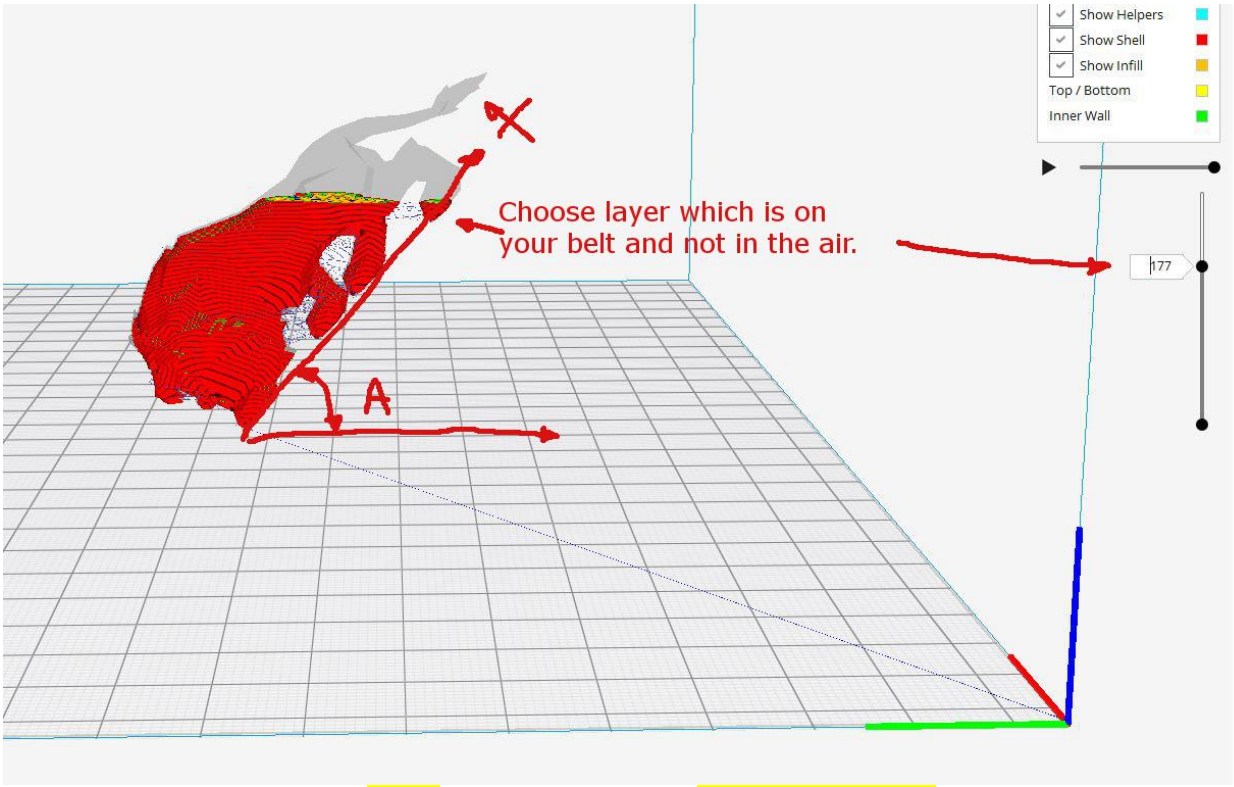
Note the orientation of your tilt, and to help you imagine how will the model print you can visualize your belt platform along the angled axis.
Here is another picture of a different type of object positioned for slicing:



I will not go into details like adding support and so on, if you have to you can make cubes that you scale along XYZ to desired size and shape, rotate them to angle A and position them where they are needed.
Save your GCODE and start Belt Parser program. You will be presented with this screen:



Click Open File and load your GCODE file. Parser will automatically load last used Angle, which you can change to your measured angle A, it will show you number of layers that your model has and it will try to calculate the optimal angle for the print. This is done by finding the point that lies on belt and yet it is farthest up on YZ plane. The important thing to remember is that if the farthest point on that YZ plane is not laying on the belt this calculation will be wrong. In that case you may check the layers in your model and find the most suitable layer like this:



Enter that desired layer at the Layer: text box and click on Recalculate at Layer button. You should see Calculated Angle text box change to something close to your measured angle A. If it shows something drastically different you have probably made a mistake when rotating the model. Click on Apply calculated angle and you can click on Check deviation to show you Min and Max Y, where Min Y should be within few mm from zero . Click on Parse and save new GCODE that you can send to your printer after that. Note that if you don't click on Apply calculated angle, Parser with parse it at what ever angle is given in the Angle text box.

How Belt Parser works.

Current printing protocols are made so that printer prints layer on the XY plane and then increments the Z value to print the next plane. If we want to have continues printing we have to put those Z increments on the belt so that those increments are not limited by the Z axis size. In order for belt printer to print something right on top of the belt, Y need to be zero or very close to it, as in our case Y is replacement for Z in a way. Problem would persist even if we somehow switch Y and Z axes, which is not possible anyway with current printing protocols, as they both change when the hot end is moving at the angle. If you look at Cura model positioned at the angle you can see that Y is dependent on placement of the model as well as the layer height. As you go up the layers you can see that Y (in our setup) is getting smaller, yet for something to print right on top of the belt it needs to be close to zero. So we need to compensate for this decrement. Formula how to do this is Yc=deltaZ/tan(A) where Yc is the value that we compensate for, giving the deltaZ difference in layer height. For example, if our angle is 38^{o} that gives tan (38^{0})=0.78 and our deltaZ=200mm we calculate Yc to be 200/0.78=256.4. We also need to know starting Yoffset which is the Y value for the first layer and is dependent on the model placement. We parse line by line through GCODE and each Yingcode we replace with new Ynew=Yingcode+Yc-Yoffset and record it in a new file.

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