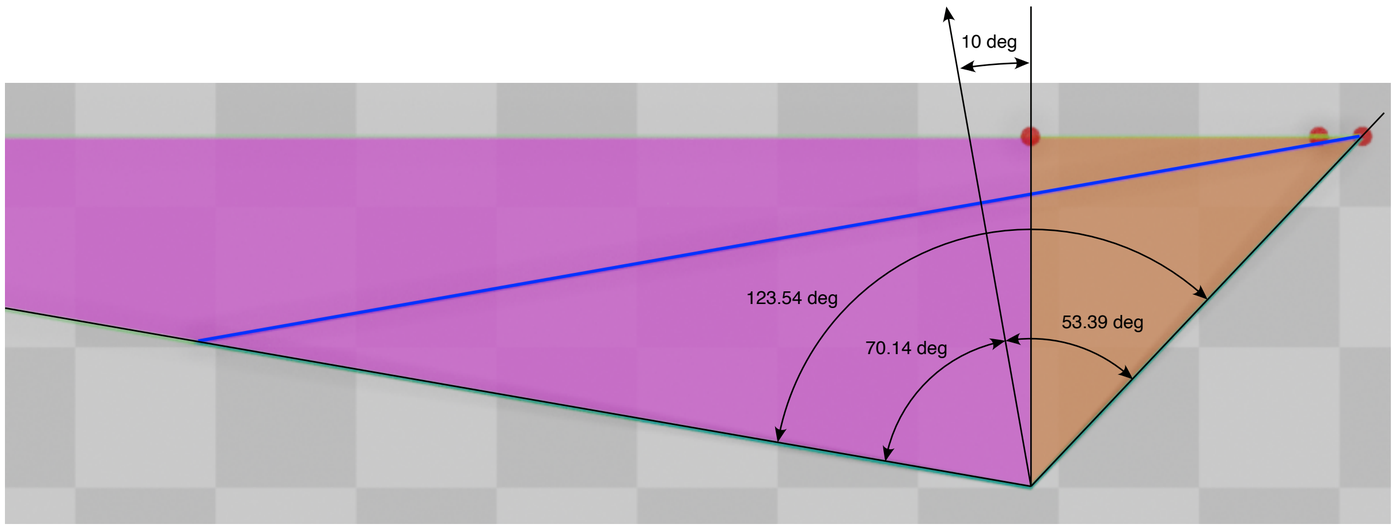
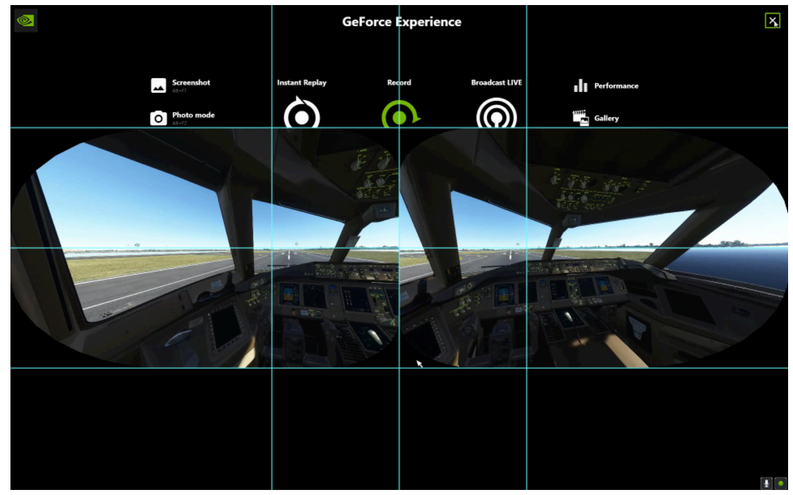
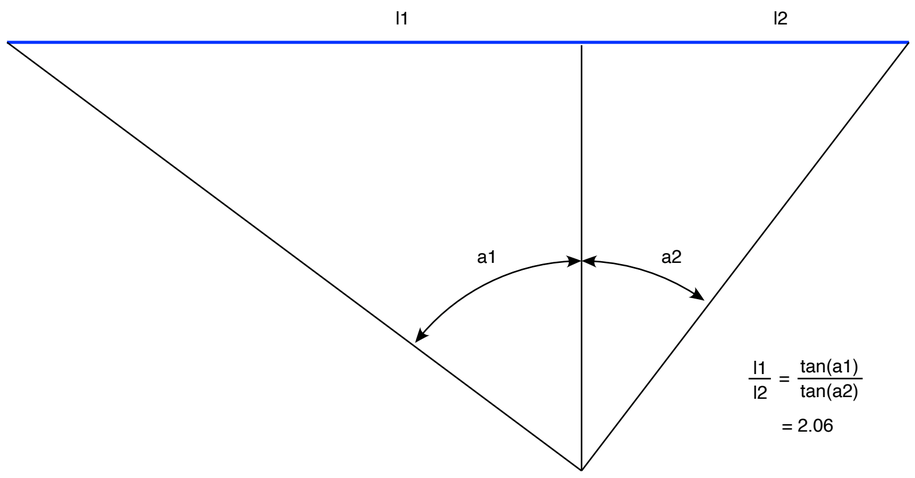
Geometry



Pipeline



Determine the position on the image of the camera center



$$\frac{l1}{l2} = \frac{\tan(a1)}{\tan(a2)}$$

$$= 2.06$$

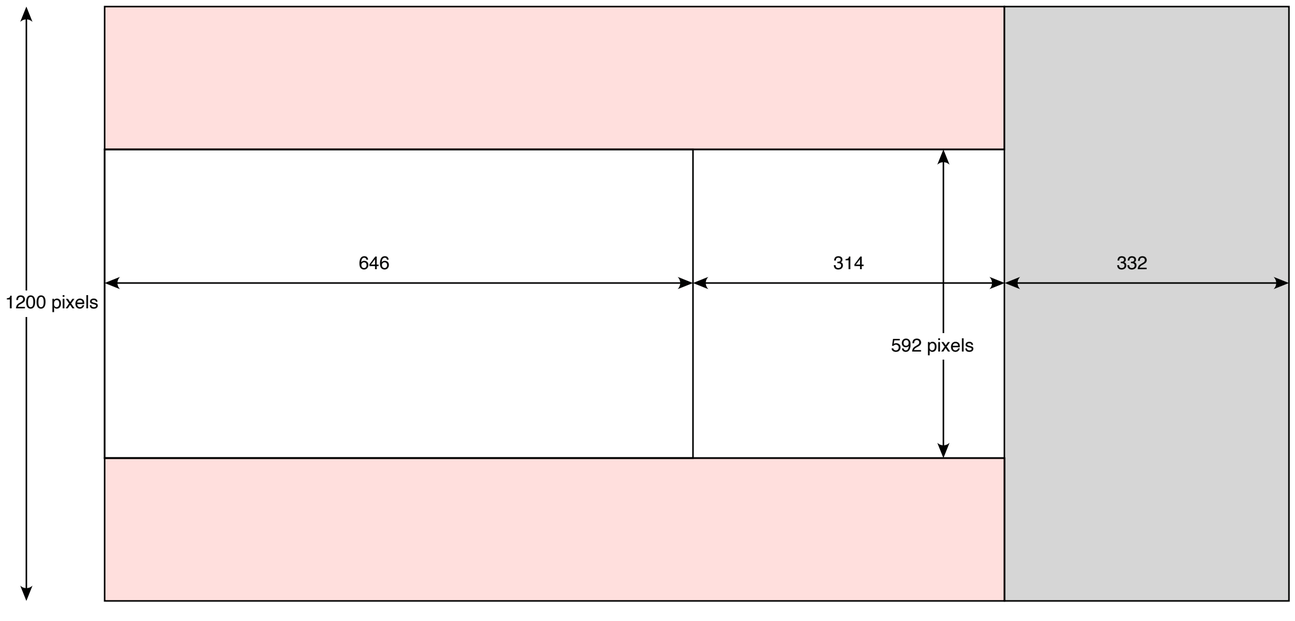
Crop left and right view

Left

Right

Pad to symmetric frustum

Crop and pad to make symmetric



Map to half equirectangular including yaw rotation.

Combine to top and bottom frame

New FOV of padded symmetric view is 2*70.14 = 140.28 deg

vfov = 2 atan[height tan(hfov/2) / width]

so

vfov should be 2 atan(592 tan(140.28/2) / 1292) = 103.5 degrees