Handson 5

CIE5141 Computer Vision in Construction

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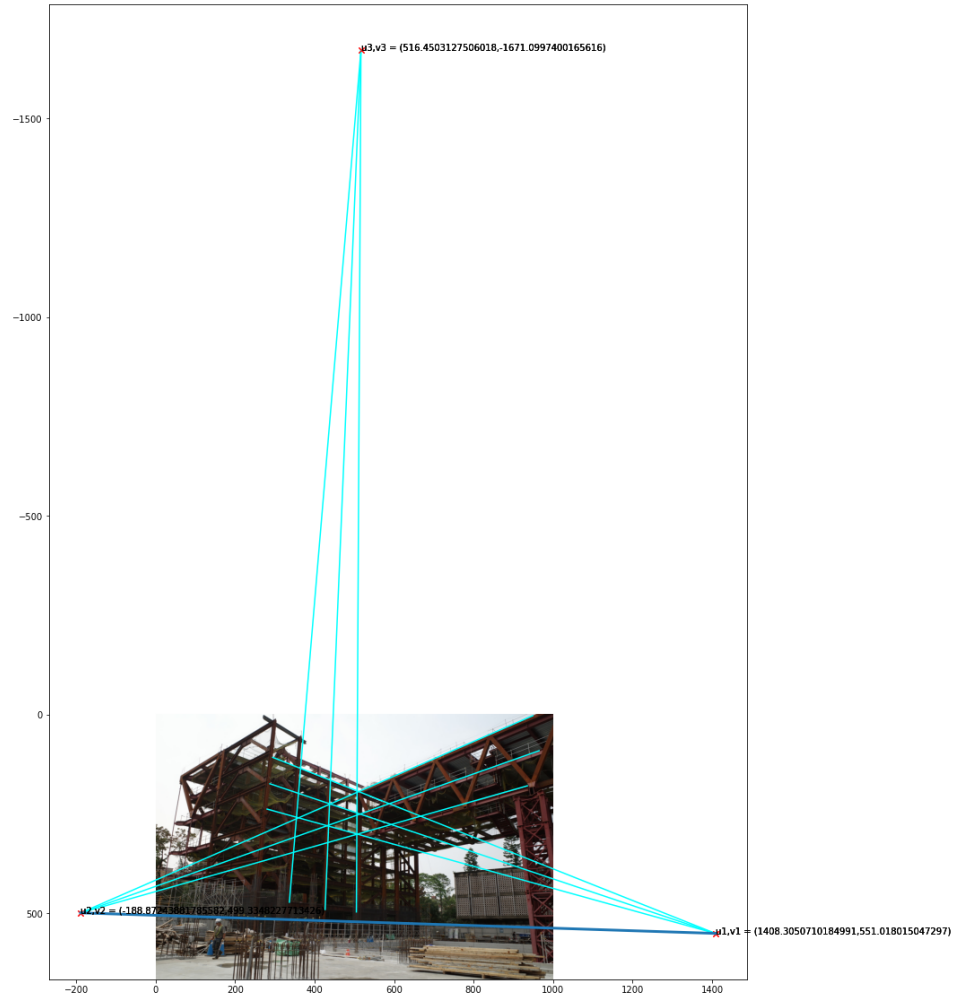
Part 1

step3: Plot vanishing points, vanishing lines and ground horizon line on the original image



step5: Based on the vanishing points, calculate Camera's Focal Length and Optical Center

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Camera's Focal Length = f = 730.503173746431
Camera's Optical Center = (454.573762836756, 241.085431924556)
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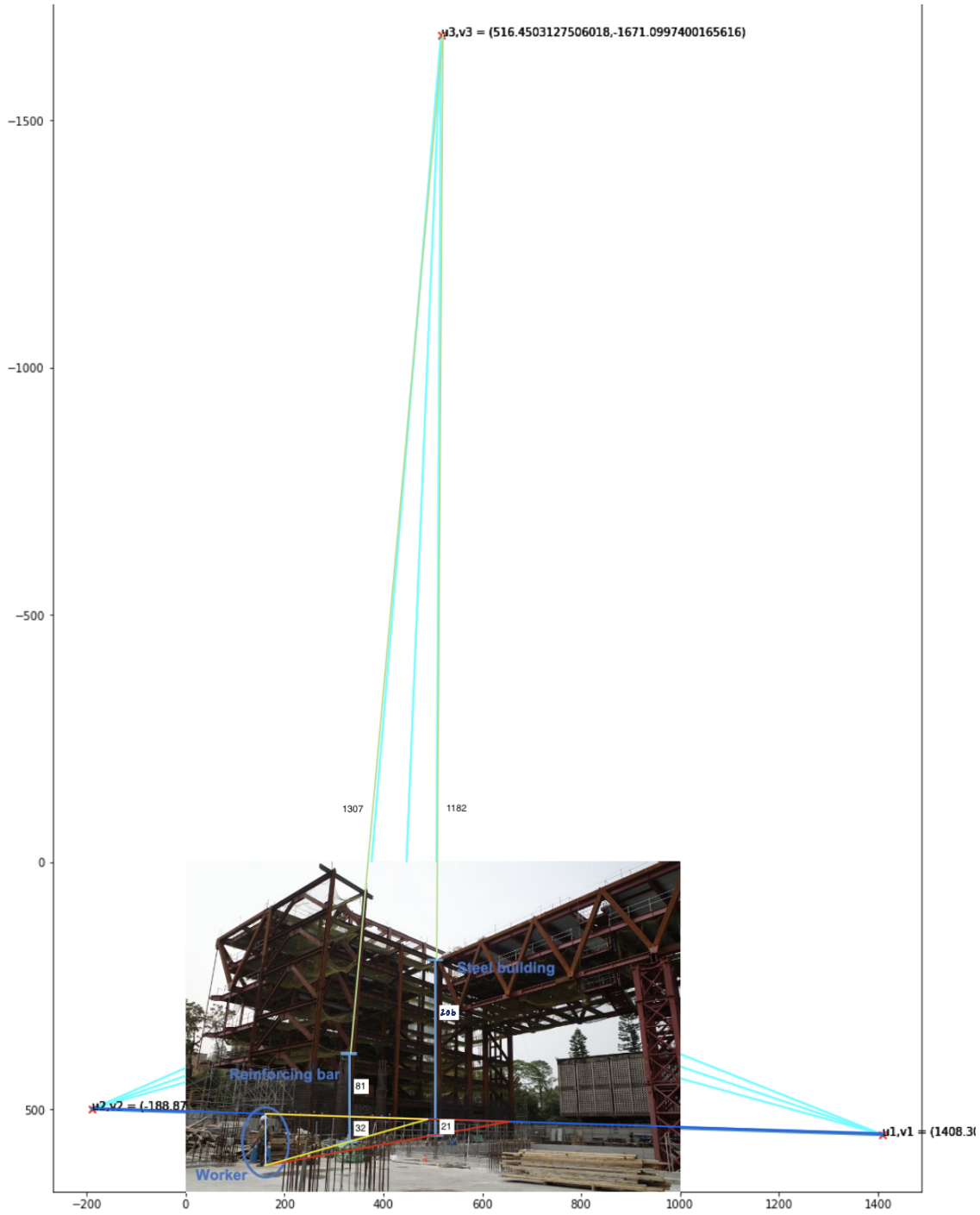
Part 2

Using the height of the worker as a reference, estimate the heights of the steel building, the reinforcing bar and the camera.



Worker height=170cm

$$\frac{(21)(1182)}{(206+21)(1182+206)} = \frac{170}{Steel\ Building}$$

Steel Building= 2157.88 (cm)

$$\frac{(32)(1307)}{(81+32)(1307+81)} = \frac{170}{Reinforcing\ Bar}$$

Reinforcing Bar =637.06 (cm)