

# STEREO 360 IMAGE PROCESSING

Let's consider a stereo 360° image/video.

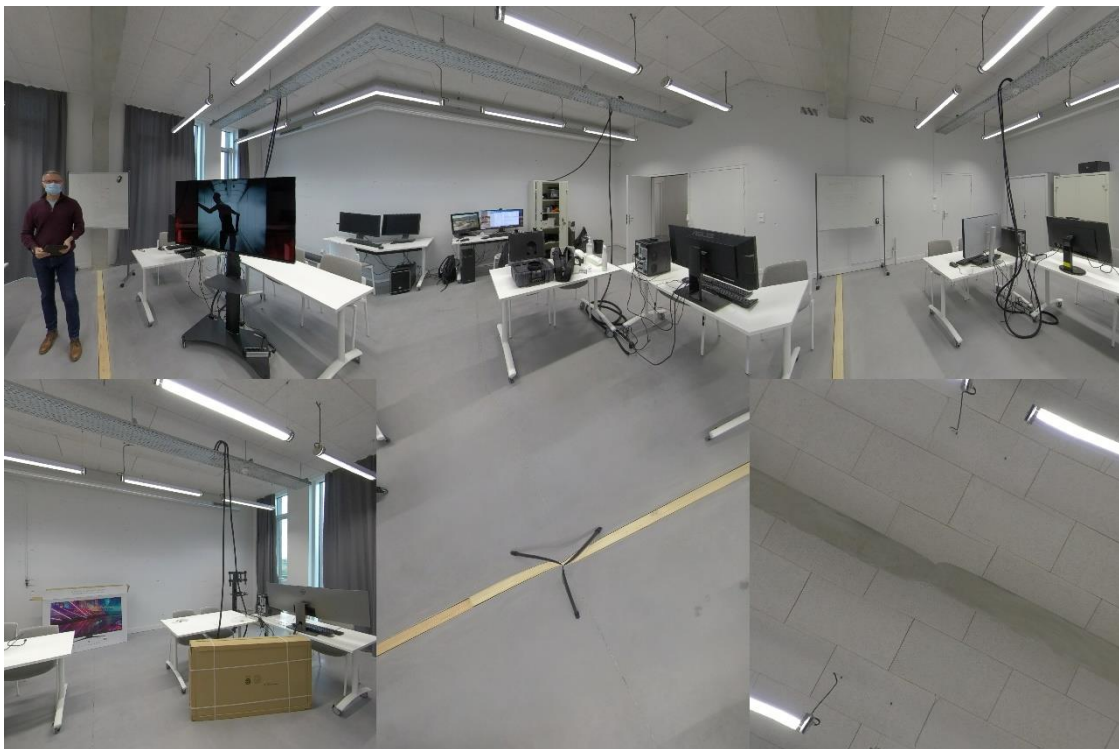
See <https://www.couleur.org/JS-Web/Sprint2024/image-stereo-360.html>

and <https://www.couleur.org/JS-Web/Sprint2024/video-stereo-360.html>

## Equirectangular vs cube map

See: <http://www.paul-reed.co.uk/programming.html>

Code: <https://github.com/PaulMakesStuff/Cubemaps-Equirectangular-DualFishEye>



Implement the following image transformations with OpenCV and CUDA:

- Equirectangular => Cube map
- Cube map => Equirectangular

on a stereo 360° (on the left or the right image from a static image or a video).

## Equirectangular image filtering

What is happening when you apply the denoising method you developed for PW2 on an equirectangular image?

Display it with: <https://www.couleur.org/JS-Web/Sprint2024/image-360.html>

## Cube map image filtering

Now apply the same filtering methods on each face of the corresponding cube map and transform the resulting images in its equirectangular representation.

Display it with: <https://www.couleur.org/JS-Web/Sprint2024/image-360.html>

## Video processing

Apply this cube map based method on videos and stereo videos.