

# Disparity map estimation using Graph Cuts

## **Background:**

Get the **disparity map** of two images which have already completed **epipolar rectification**.

Using **global method** to compute **disparity** by using **max flow method** to find **minimum cut** in graph to obtain the disparity map.

## **Testing environment:**

Linux (ubuntu 16.04 LTS)

## **Dependent packages:**

Imagine++ - version 4.3.2

<http://imagine.enpc.fr/~monasse/Imagine++/>

## **Compile:**

Create a new folder called **"build"**

In this folder, run command :

**`cmake ..`**

If cmake success, then run:

**`make`**

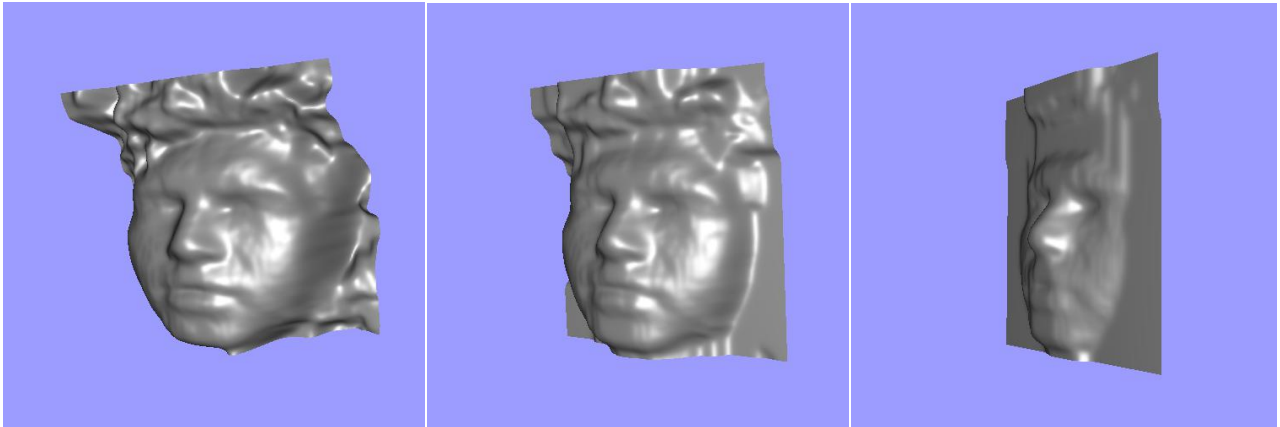
If no error appears, then it will generate a executable file called **"stereoGC"**, then run:

**`./stereoGC`**

It will lancer this application.

## **Usage:**

Increase Lambda from 0.1 to 0.5 [0.1, 0.25, 0.5]. The bigger value of Lambda, the more smoother the disparity will be, can reduce the gradient of disparity map, the mesh become more flat.



Increase  $n$  (patch radius) from 3 to 7 [3, 5, 7]. The bigger value of patch radius, the less noise of disparity map will be, the more smoother surface will be.



Compare with the local method, the global method is more faster and have a more smoother result.