

# VISION: Seeds

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## 1 Section 1 : Goal

Compute the disparity map associated to a pair of images. We start from high confidence points (seeds), then expand by supposing that the disparity map is regular.

- Compute disparity map from image 1 to 2 of all points by highest NCC score.
- Keep only disparity where NCC is sufficiently high (0.95), put them as seeds in a `std::priority_queue`
- While queue is not empty:
  1. Pop P, the top of the queue
  2. For each of the 4-neighbor Q of P having no valid disparity set  $d_Q$  by highest NCC score among  $d_{P-1}$ ,  $d_P$ , and  $d_{P+1}$
  3. Push Q in queue

## 2 Section 2 : Commands for compile

For compile the code in Linux is necessary to enter through the terminal the right folder where cthe code ".cpp" and the images and write:

```
cmake .  
make  
./Seeds
```

## 3 Section 3: Results



Figure 1: Initial Images



Figure 2: Dense



Figure 3: Seeds



Figure 4: Propagation

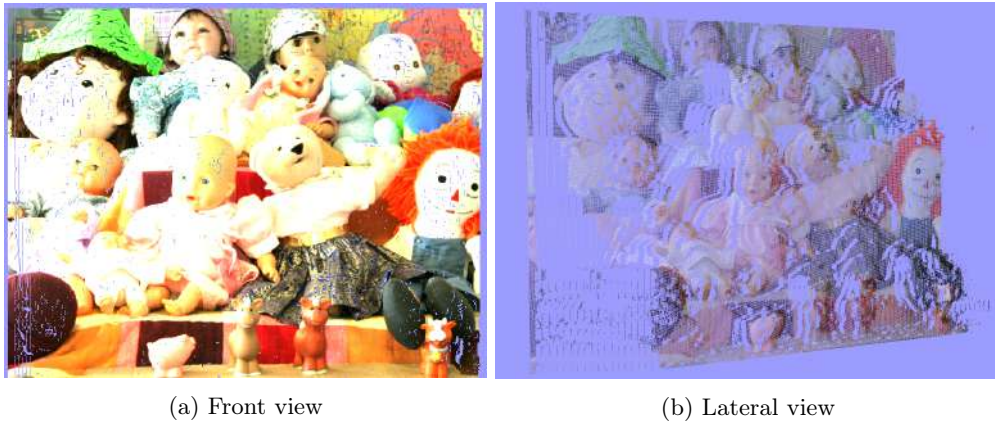


Figure 5: Final Image

The code is working properly, we can see both the three stages and the final result. The code is quite slow, but we can see the calculation percentage on the screen, to assess whether there are problems or whether it is running correctly.

The final image can be rotated to perceive the image depth, calculated in the previous steps. At the end, with a click on one window( except the final one) close.