ROVI: Exercise 6 - Template Matching

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Autumn 2019

1 Coding Help

A possible command to run the template creation is:

```
./../build/create_templates_cad ../files/obj_09.ply --no-depth --no-cloud -r 650,700,750

--lat-begin 45 --lat-end 80 --lon-begin 0 --lon-end 360 --fov 45.5 --bc 1,0,0 -t 1 -s 4 -v
```

It can be of help to run the command from the **templates** directory.

To setup the linemod detector you need to specify the pyramid layers and the modalities to use. Linemod can also use normal vectors as modality, but as we are not using it the following can be used in the detector setup.

```
std::vector<int> pyramid;
pyramid.push_back(4);
pyramid.push_back(2);
pyramid.push_back(1);

std::vector< Ptr<cv::linemod::Modality> > modals;
modals.push_back( cv::linemod::Modality::create ("ColorGradient") );

cv::linemod::Detector detector( modals, pyramid );

return detector;
```

You can play around with the pyramid size, but be aware that it easily crashes (though not in a dangerous way).

Loading the templates is quite simple, remember that the **sources** is a vector as there could be multiple modalities. We also load the object index **tfile** to remember which template is used.

```
// insert templates into the detectior
detector.addTemplate ( sources, std::string(tfile), out );
```

To get the matches run `detector.match( sources, threshold, matches );` you have to set a minimum threshold to accept a match. This isn't really relevant as you are accepting only the best match, but if multiple objects could be present or if a wrong detection is problematic it becomes usable.

Best regards

Frederik