

## Installing

The algorithm used requires several PCL C++ libraries. Installing these libraries can be done by following the installation tutorial provided by:

<http://robotica.unileon.es/mediawiki/index.php/PhD-3D-Object-Tracking>

The algorithm uses methods and updates that are in version 1.8. Currently version 1.8 is the trunk version and will need to be compiled by source. The tutorial above covers this as well.

Another source for information on methods used and some tutorials is:

<http://pointclouds.org/documentation/tutorials/>

## Running the Algorithm

To build the algorithm copy and paste the algorithm folder somewhere. Navigate to the build folder and type:

```
cmake ..
```

Once this is done type:

```
make
```

Now the algorithm is ready to run. The algorithm requires 3 database files and 1 pcd file as a command line input. The three database files, kdtree.idx, training\_data.list and training\_data.h5 need to be placed in the same folder as the algorithm executable. To run the algorithm type:

```
./algorithm inputcloud1.pcd
```

Where inputcloud1.pcd is a provided point cloud image.

## Running the Database

The three database files are made using build\_database. Build the executable is the same as above. Navigate to the build folder type:

```
cmake ..
```

Then:

```
make
```

The database executable requires a folder that contains the VFH data of the object views as a command line input. The program loads all files in the folder that contain VFH data and builds the database.

Running the executable:

```
./build_database /Tide_80_SDC
```

This will generate the three database files that can be copy and pasted to algorithm folder.