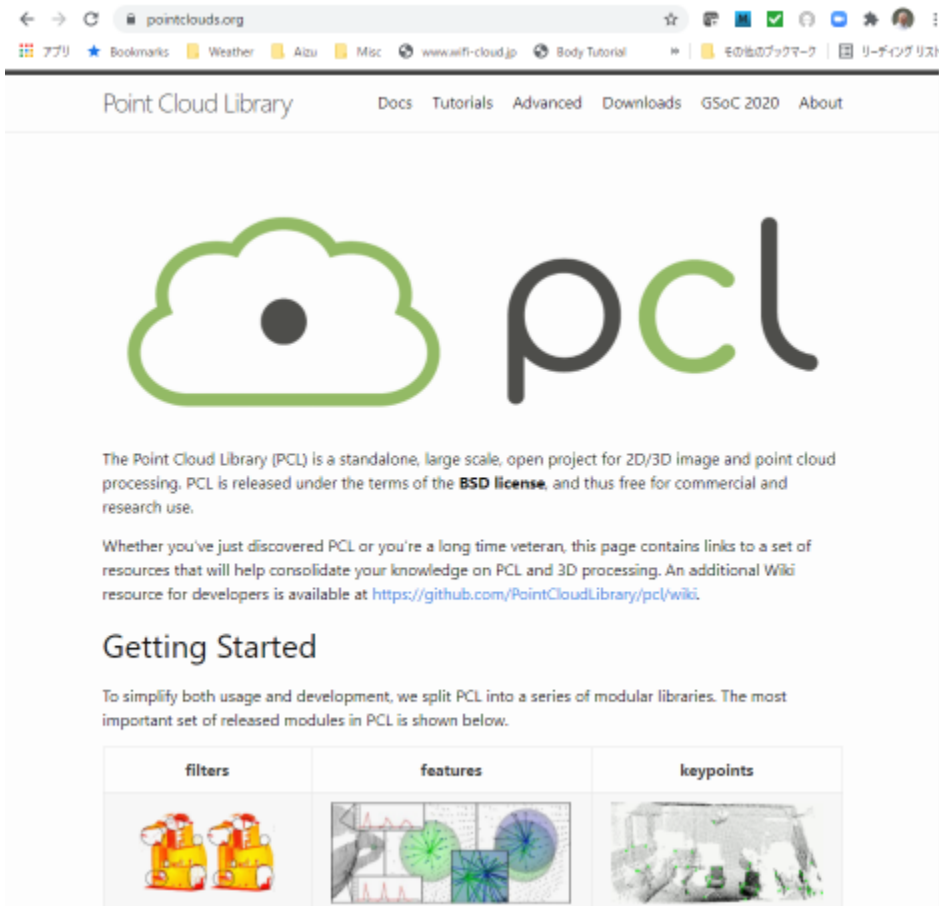


# Column #1: Open-Source-Software by C++ Point Cloud Library



## Point Cloud Library (PCL)

- 点群データ(Point Cloud)を扱うためのオープンソースソフトウェア
- C++で記述されている
- Top: <https://pointclouds.org/>
- Tutorial:  
<https://pcl.readthedocs.io/projects/tutorials/en/latest/>
- Linux インストール: `sudo apt install libpcl-dev`

## Sample Code: pcd\_read.cpp

```
#include <iostream>
#include <pcl/io/pcd_io.h>
#include <pcl/point_types.h>

int main (int argc, char** argv)
{
    pcl::PointCloud<pcl::PointXYZ>::Ptr cloud (new pcl::PointCloud<pcl::PointXYZ>);

    if (pcl::io::loadPCDFile<pcl::PointXYZ> ("test_pcd.pcd", *cloud) == -1) /* load the file
    {
        PCL_ERROR ("Couldn't read file test_pcd.pcd %n");
        return (-1);
    }
    std::cout << "Loaded "
        << cloud->width * cloud->height
        << " data points from test_pcd.pcd with the following fields: "
        << std::endl;
    for (const auto& point: *cloud)
        std::cout << "    " << point.x
            << "    " << point.y
            << "    " << point.z << std::endl;

    return (0);
}
```