

Running times measured on Intel i7-860, 8GB DDR3 RAM

The results are averaged over 3 runs. I know it's not much, but I didn't want to wait :)

CGAL is a C++ library <http://www.cgal.org>

All times are in seconds.

If not stated otherwise, the points are randomly distributed in a (hyper)cube.

CGAL 3D triangulation is so much better because they use a specialized algorithm.

Convex Hull

MIConvexHull

| Dimension | 2 | 3 | 4 | 5 | 6 |
|-----------|-------|-------|-------|-------|--------|
| 0.1k | 0 | 0 | 0.001 | 0.009 | 0.062 |
| 1k | 0 | 0.001 | 0.004 | 0.055 | 0.938 |
| 10k | 0.002 | 0.005 | 0.021 | 0.296 | 5.529 |
| 100k | 0.022 | 0.05 | 0.181 | 1.421 | 24.608 |

3D

| | MI | CGAL |
|------|-------|-------|
| 1k | 0.001 | 0.001 |
| 10k | 0.005 | 0.008 |
| 100k | 0.047 | 0.058 |
| 1m | 0.963 | 0.917 |
| 10m | 8.019 | 8.517 |

3D Models (times for MIConvexHull)

| | #Vertices | Time |
|---------|-----------|-------|
| Bunny | 34835 | 0.04 |
| Dino | 8047 | 0.004 |
| Ferrari | 26328 | 0.054 |
| Eiffel | 26332 | 0.005 |

Delaunay Triangulation

| 3D | | | 4D | | | 5D | | |
|------|--------|-------|------|-------|--------|-------|--------|---------|
| | MI | CGAL | | MI | CGAL | | MI | CGAL |
| 1k | 0.03 | 0.015 | 0.1k | 0.021 | 0.079 | 0.1k | 0.165 | 0.353 |
| 10k | 0.594 | 0.163 | 1k | 0.444 | 1.73 | 0.25k | 0.852 | 1.636 |
| 25k | 1.775 | 0.417 | 5k | 3.187 | 11.606 | 0.5k | 2.405 | 4.355 |
| 50k | 3.955 | 0.842 | 10k | 7.115 | 24.482 | 1k | 6.503 | crashed |
| 100k | 8.939 | 1.698 | | | | 2.5k | 20.963 | crashed |
| 500k | 55.841 | 8.565 | | | | | | |

6D

| | MI | CGAL |
|-------|--------|---------|
| 0.1k | 2.143 | 1.538 |
| 0.25k | 17.205 | crashed |
| 0.5k | 63.648 | crashed |
| 1k | 200.09 | crashed |

3D Models (times for MIConvexHull)

| | #Vertices | Time |
|-------------|-----------|-------|
| Bunny | 34835 | 2.22 |
| Dino | 8047 | 0.4 |
| Ferrari | 26328 | 1.15 |
| Eiffel | 26332 | 1.15 |
| 1JJ2(Protei | 98543 | 7.543 |