Advanced Computational Geometry in Paraview with CGAL & Vespa

If you need advanced Computational Geometry support for your visualization and analysis, then we have you covered!

Follow these steps to get up and running with an OOD remote desktop and a custom compiled paraview container providing cgal vespa.

```bash
# pull the container
apptainer pull docker://ghcr.io/devinbayly/cgal_vespa:latest
```

When this is complete you must run the container and start paraview

```bash
apptainer exec cgal_vespa_latest.sif /opt/paraview_build/bin/paraview
```

When paraview starts you need to import the Vespa paraview plugin which will be at this system path

```
/usr/local/lib/paraview-5.11/plugins/VESPAPlugin/VESPAPlugin.so
```

Then the following filters can help for estimating volumes contained within areas of interest in imaging data

- threshold
- extract surface
- tetrahedralize
- Alpha Wrap (CGAL Vespa)
- Connectivity
- Compute Connected Surface Properties

Refer to the screen recording shared here for other details, as well as the demo_state.pvsm which you can just load in the custom paraview container to get started.
vespa.mp4