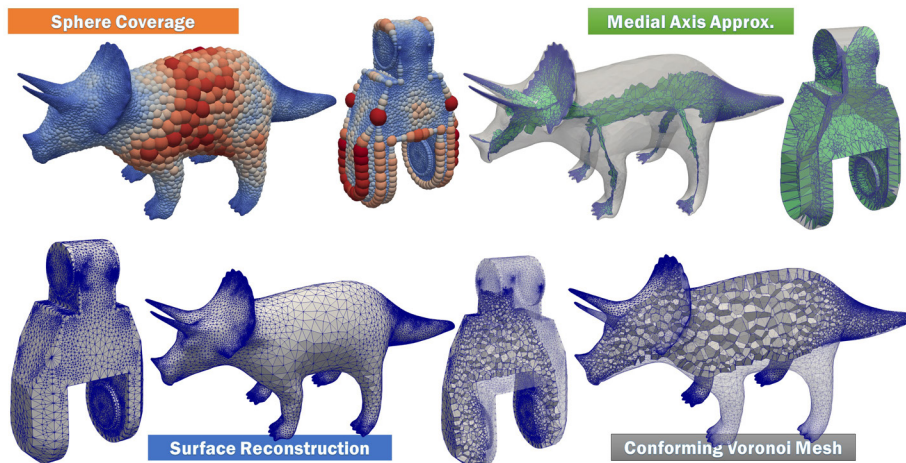


VoroCrust v. 1.0 is one of the first fully automated Voronoi meshing software programs reliable enough for anyone to generate a mesh that conforms to a complex model without clipping—regardless of experience. While there are other meshing software programs currently on the market, VoroCrust is the only one that utilizes unclipped Voronoi cells everywhere to produce provably correct polyhedral tessellations for domains with multiple regions.

VoroCrust users input their CAD model and the program quickly and automatically produces well-spaced seed locations to generate a conforming mesh that simultaneously decomposes the enclosed volume and reconstructs the bounding surface. Each cell is an unclipped Voronoi cell which means it is a convex region bounded by planar facets that are convex as well—resulting in mesh that is more reliable than what is currently possible with other programs. Our Voronoi mesh is designed to handle complex models which may include sharp edges or curved surfaces. By generating a higher quality mesh that is truer to the original model, VoroCrust eliminates the need to clean-up or optimize models which results in time consuming user interaction, requires experience, and may sacrifice Voronoi properties. All meshes are stored as an implicit mesh that is based on seed locations which can quickly regenerate the underlying explicit mesh locally and on the fly, saving users valuable storage space.

## VoroCrust: Voronoi Meshing Without Clipping



## INDUSTRIES & APPLICATIONS

- Polyhedral meshing
- Linear programming
- Surrogates modeling
- Automatic discontinuity detection
- Calibration
- Optimization
- Uncertainty quantification

## SPECIFICATIONS

- Programming Language: C++
- Operating System: Mac, Windows, Linux
- Hardware Requirements: PC
- Auxiliary Software: None