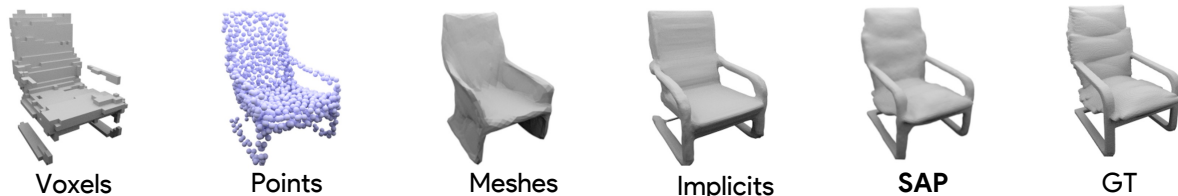


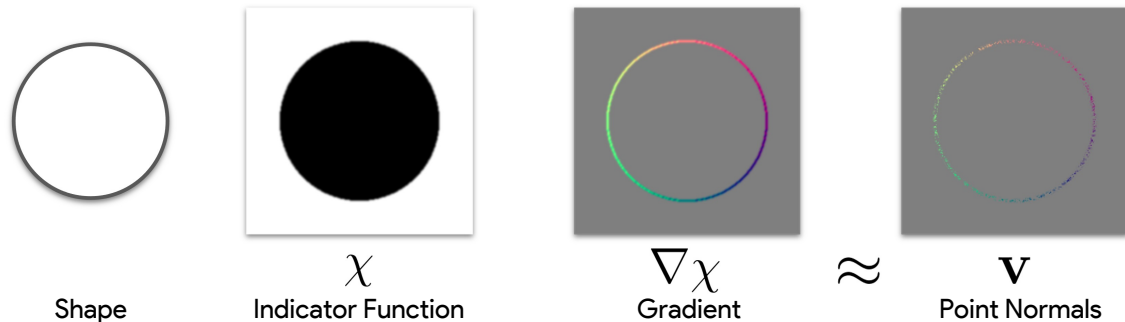
Motivation



SAP efficiently and differentially bridge oriented point clouds and meshes.

Differentiable Poisson Solver

$$\nabla^2 \chi := \nabla \cdot \nabla \chi = \nabla \cdot \mathbf{v}$$



We solve the Poisson equation with **GPU-accelerated spectral methods**.
(12 ms for computing a 128^3 indicator grid, 140 ms for 256^3)



Paper, code, and video are available:

<https://pengsongyou.github.io/sap>

Application: 3D Reconstruction from Point Clouds

