svd from linearalgebra

ElementSets from MeshConnectivity

NeighborVerticesInFace, Faces from PolygonNeighborhoods(M)

$$M: \text{ PolygonMesh}$$
$$x_i \in \mathbb{R}^3$$

$$V, E, F = \mathit{ElementSets}(M)$$

$$\mathit{VertexNormal}(i) = \left(\sum_{f \in \mathit{Faces}(i)} \frac{(x_j - x_i) \times (x_k - x_i)}{\|x_j - x_i\|^2 + \|x_k - x_i\|^2} \qquad \text{where } j, k = \mathit{NeighborVerticesInFace}(f, i) \right) \text{ where } i \in V$$