A Spectral Approach To Meshes

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November 12, 2024

Definition (Triangular Mesh)

A **triangular mesh** is a triple $K = (V, E, F)$ such that

- $V \subseteq \mathbb{R}^3$ is a finite set representing the vertices
- $E \subseteq [V]^2$ is a set representing non-intersecting edges
- $F \subseteq [E]^3$ is the set of faces such that for any $f = \{e_1, e_2, e_3\} \in F$,

$$e_1 \cap e_2 = \{v_1\}$$
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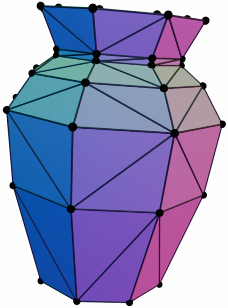
$$e_3 \cap e_1 = \{v_3\}$$

for $v_1 \neq v_2 \neq v_3$.



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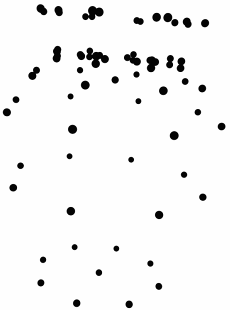

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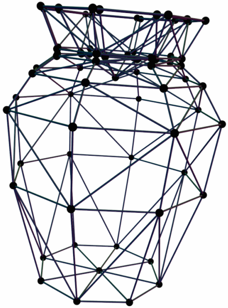

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