

Triangulations for Computer Graphics Applications

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Abstract

Triangulations in 2D and 3D are a necessary and useful tool for many computer-graphics-related applications. This talk first briefly surveys main categories and types of triangulations in 2D. Then the talk concentrates on the most often used triangulations - Delaunay and greedy, with short recapitulation of their main properties, behaviour and algorithms for their construction. Then differences and difficulties which arise for the 3D case or for dynamic and kinetic data are addressed. Main attention in the talk will be drawn to case studies: several computer graphics and image processing problems, which can be properly solved by triangulations, such as surface reconstruction, contour line computation, planar domain boundary reconstruction, image representation etc.