A Discrete Bisector Function Based on Annulus

Sangbé Sibide[*1], Rita Zrour[*1], Eric Andres[*1], and Gaelle Largeteau-Skapin[*1]

[1]XLIM – Université de Poitiers, CNRS : UMR7252 – France

Abstract

In this paper we are proposing a new way to compute a discrete bisector function, which is an important tool for analyzing and filtering Euclidean skeletons. From a continuous point of view, a point that belongs to the medial axis is the center of a maximal ball that hits the background in more than one point. The maximal angle between those points is expected to be high for most of the object points and corresponds to the bisector angle. This logic is not really applicable in the discrete space since in some configurations we miss some background points leading sometimes to small bisector angles. In this work we use annuli to find the background points in order to compute the bisector angle. The main advantage of this approach is the possibility to change the thickness and therefore to be more flexible while computing the bisector angle.

[*]Speaker