

# Comparison of Discrete Curvature Estimators and Application to Corner Detection

November 18, 2014

*Article written by B. Kerautret , J.-O Lachaud , and B. Naegel , published in Advances in Visual Computing Lecture Notes in Computer Science Volume 5358, 2008, pp 710-719 .*

**Advisor :** Marie Beurton-Aimar - [beurton@labri.fr](mailto:beurton@labri.fr)

## Topic

Image processing is one of the main topic in computer science. This article discuss about a way to analyse images and to discover or to compare shapes belonging to an image. In this article several estimator of curves are presented, into discrete context and for images with noise.

## Work to do

After an analysis of the article, you will implement the algorithms which are compared (or find library which did it). The problem of the time consuming is cited, you will study how to parallel the algorithms on CPU or GPU, to try to solve (or improve) this question. The image to choose for the test will be in 2D. The file PronotumPoecilus.JPG contains on image that you can choose to test your program. You can add some level of noise (using any kind of tools) to test the robustness of your program. Of course, you have to extract first the contours of your object (insect) before to test the algorithms.

**NB** : article and image can be found at :  
<http://dept-info.labri.fr/~beurton/Enseignement/PER/>