

# Expanding Density Peak Clustering Algorithm Using Gaussian Kernel and its Application on Insurance Data

Jie Wen\*

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## Abstract

The purpose of study is to construct the Gaussian kernel density peak clustering (GKDPC) algorithm, as an alternative approach to achieve the task of clustering data. The GKDPC algorithm uses Gaussian kernel to define the density estimator, and attach it to the density peak clustering (DPC) algorithm to automatically obtain the correct number of clusters while locating the positions of the cluster centers. The demonstrations of the GKDPC algorithm have showed the superiority on free to parameters and robustness aspects over other algorithm counterparts. The application on the insurance data has also showed that the GKDPC has great potentials to be used in real-world industries.

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\*Postal address: Mathematical Statistics, Stockholm University, SE-106 91, Sweden.  
E-mail: [wjroomnew@gmail.com](mailto:wjroomnew@gmail.com). Supervisor: Chun-Biu Li.