

MHPC thesis: High-performance implementation of the Density Peak clustering algorithm

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We developed a parallel implementation of the “Density Peak” clustering algorithm, exploiting C++11, OpenMP and the FLANN library for k-nearest-neighbour search. The modified algorithm is approximately 50 times faster than the original version on datasets with half a million points, and scales almost linearly with the dataset size. Thanks to improvements on the density estimation and assignation procedure, the algorithm is also unsupervised and non-parametric.

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