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Aplikasi growing self organizing map dan bee colony optimization algorithm pada group technology = Application of growing self organizing map and bee colony optimization algorithm for group technology

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Abstrak

## [<b>ABSTRAK</b><br>

Penelitian ini terdiri dari dua tahap. Growing self-organizing map (GSOM) algorithm dan hybrid bee colony optimization (BCO) dan self-organizing map (SOM) untuk mengimprove SOM performance. Pada tahap pertama GSOM digunakan untuk menentukan SOM topology dan pada tahap kedua, hybrid BCOSOM digunakan untuk mengadjust SOM weights. Metode BCOSOM akan dibandingkan dengan metode PSO, BCO, SOM, PSOSOM, SOM+PSO, dan SOM+BCO dengan menggunakan 4 benchmark data sets (Iriss, Glass, Wine, dan Vowel). Dari hasil komputasi menunjukkan bahwa metode BCOSOM dapat mencari solusi yang lebih baik dari algoritma lainnya. Dari hasil tersebut, BCOSOM digunakan pada Group Technology untuk menentukan part families pada komponen plat disebuah perusahaan medical furniture di Yogyakarta.

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## <b>ABSTRACT</b><br>

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Wine and Vowel The computational result indicates that BCOSOM algorithm is able to find a better solution than other algorithms Furthermore the proposed algorithm has been also employed to Group Technology to cluster components into part families for a medical manufacture in Indonesia , ABSTRACT This research proposes a two stage method growing self organizing map GSOM algorithm and bee colony optimization BCO based self organizing map BSOSOM to improve SOM performance In the first stage GSOM is used to determine the SOM topology and then followed by BCOSOM to fine tune the SOM weights The proposed BCOSOM algorithm is compared with other algorithms PSO BCO SOM PSOSOM SOM PSO and SOM BCO using four benchmark data sets Iris Glass Wine and Vowel The computational result indicates that BCOSOM algorithm is able to find a better solution than other algorithms Furthermore the proposed algorithm has been also employed to Group Technology to cluster components into part families for a medical manufacture in Indonesia ]