Object recognition based on radial basis function neural networks: Experiments with RGB-D camera embedded on mobile robots

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Résumé en anglais	An object recognition strategy based on artificial radial basis functions neural networks is presented in this paper. The general context of this work is to recognize object from captures made by a mobile robot. Unlike classical approaches which always select the closest object, our method outputs a set of potential candidates if the input information is not enough discriminant. There are three main steps in our approach: objects segmentation, signature extraction and classification. Segmentation is inspired from previous works and is shortly described. Signature extraction based on global geometric and color features is detailed. Classification based on artificial neural networks is also explained and architecture of the network is justified. Finally a real experiment made with a RGB-D camera mounted on a mobile robot is presented and classification results is criticized.
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