ABSTRACT

The application of Ultrasound-guided regional anaesthesia (UGRA) is growing rapidly in the medical field, and becomes a standard procedure in many worldwide hospitals. The aim of this work is to propose an automatic method to localize the nerve zone, in order to assist anaesthetists during the UGRA procedure. Due to the complex structure of nerve and poor quality of ultrasound images, the automatic detection of the nerve region is a challenging problem. For that purpose, we propose a new method, based on despeckling, feature ranking and majority vote classification, for a robust and accurate median nerve localization. The proposed method is applied on a real dataset obtained from eight patients. The obtained results showed high performances for median nerve detection achieving 89% of the f-score measure.