CHANGE FROM THE NETBEANS+JAVA ENVIRONMENT TO THE COLLABORATORY+PYTHON ENVIRONMENT FOR LEARNING ADABOOST BASED ALGORITHMS

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Abstract

The AdaBoost (Adaptive Boosting) algorithms are part of the theoretical-practical body of the subject Intelligent Systems. AdaBoost is based on the premise that a strong automatic classifier can be obtained from several weak classifiers. Students, after addressing this topic, should be able to build strong automatic classifiers using different collections of weak classifiers in order to use them in environments for automatic object recognition. Since the AdaBoost algorithms are the object of study, students use the Netbeans+Java platform to support the various experiments they carry out. In a first stage, the questions have been defined to assess the introduction of the platform Colaboratory+Python in order to learn the techniques of design and implementation of AdaBoost algorithms. Subsequently, surveys have been designed and elaborated to obtain performance data and, finally, the statistical analysis of the survey results has been carried out. Two groups of 25 students participated in this first study. The results obtained show that the established objectives are being achieved. This work had the support of the Research Network "Intelligent Systems is highlighted. Learning algorithms based on Adaboost using the platform Colaboratory", Red ICE 2018-2019 with code 4480.

Keywords: AdaBoost algorithms, Intelligent Systems, Learning algorithms.