Algorithm 1 ProportionalEnsemble(*classifiers*, *train*, *test*)

1: $trainAccs = \emptyset$;
2: **for** $i \leftarrow 1$ to $|classifiers|$ **do**
3:     $trainAccs_i = loocv(train, classifiers[i])$
4:     $classifiers_i$.buildClassifier($train$)
5: $testPreds = \emptyset$
6: **for** $i \leftarrow 1$ to $|test|$ **do**
7:     $votes = \emptyset$
8:     $bsfWeight = -1$;
9:     $bsfClass = -1$;
10:     **for** $c \leftarrow 1$ to $|classifiers|$ **do**
11:         $p = classifiers_c$.classify($test_i$)
12:         $votes_p = votes_p + trainAccs_c$;
13:         **if** $votes_p > bsfWeight$ **then**
14:             $bsfWeight = votes_p$
15:             $bsfClass = p$
16:         $testPreds_i = bsfClass$
17: **return** $testPreds$