

Homework 3, I546: Music Informatics

The class web page has a list of midi files along with their associated keys. The file contains four columns with one row for each piece of music. The columns give

1. the name of (the file for) the piece
2. the tonic for the piece expressed as a number 0 . . . , 11.
3. the “mode” for the piece (0 = major, 1 = minor)
4. the name of the key using the usual conventions, e.g. C#Major

The last column is, of course, redundant, but is there just to clarify the meaning of the ground truth file. You will use the file as the “ground truth” for the following experiment.

1. Write an R program to read in a “.dat” file and to compute the key (tonic and major/minor) for the piece according to the algorithm you proposed in the previous assignment.
2. Extend your program to read in the list of ground truthed files and compute the keys for each one using your program.
3. Since you also have the ground truth, each classification can be labeled as correct or incorrect. Compute the percentage of incorrect classification made by your program.
4. Try to characterize the *kinds* of mistakes your classifier makes. (If there are no errors, of course you don’t need to do this).

Please ask if there are questions about this assignment