

1145-VF-1823 **Mitchell Collin Will*** (will1005@connect.wcsu.edu), 20 Benson Road, Bethel, CT 06801,
Leland Roberts (roberts133@connect.wcsu.edu), 20 Harrison Street, Danbury, CT 06810,
Ralph Venezia (venezia006@connect.wcsu.edu), 39 Cross Hill Road, Monroe, CT 06468, and
Xiaodi Wang (wangx@wcsu.edu), 310 Lexington Blvd, Bethel, CT 06801. *Wavelets and machine learning based music information retrieval.*

Entertainment firms utilize different methods for optimizing user's entertainment and to maximizing profit. For example, Pandora takes songs you like, evaluates their features and provides users with similar songs they may enjoy. The purpose of our research is to develop a new method for classifying music using wavelets and machine learning techniques, such as support vector machines, logistic regression, and neural network to identify a song's genre and recommend similar songs. To accomplish this we must gather a database of Songs. Songs take up lots of space to store, so we must convert each song into wavelet domain. From here, we can reduce its dimension using principal component analysis, and extract the most important features using feature analysis. To classify songs, we will use either support vector machine or logistic regression or neural network, and combine with feature analysis and principal component analysis to find a match. Once we have a match, we can recommend other songs from our database with similar features. We are very confident that our state-of-the-art method is different that other research sources. This is because we are classifying and recommending songs based on the features of the song not just its genre making our method superior. (Received September 24, 2018)