# Predicting a Patients Breast Cancer Diagnosis Using Data Mining Techniques Bethany Smith (Presenter) Louisiana State University, Baton Rouge, LA

In 2017 in the United States there will be an estimated 1,688,780 new cancer cases and 600,920 cancer deaths. (Cancer Statistics Center , 2017) It is estimated, in 2017 of these new cancer cases, 252, 710 females and 2,470 males will develop Breast Cancer. (Cancer Statistics Center , 2017) We have seen throughout the last decade a consistent decrease in mortality rates related to breast cancer. Thus, it is argued that early detection and prevention are sighted as being the most effective means for managing breast cancer and decreasing mortality rates. In an effort to further advance the early detection and prevention of Breast Cancer, we implore various data mining techniques.  
  
The purpose of this article is to help physicians make critical decisions about breast cancer screenings and further diagnostic procedures. Our goal is to utilize the Wisconsin Breast Diagnostic Data Set, and apply various data mining techniques to create a predictive model able to classify breast masses as either malignant or benign based on the values of thirty potential predictors, obtained by measuring the nuclei of fluid removed using a fine needle aspirate. Additionally, we look to identify those predictors that are of significant importance when correctly predicting whether a patients mass is malignant or benign.