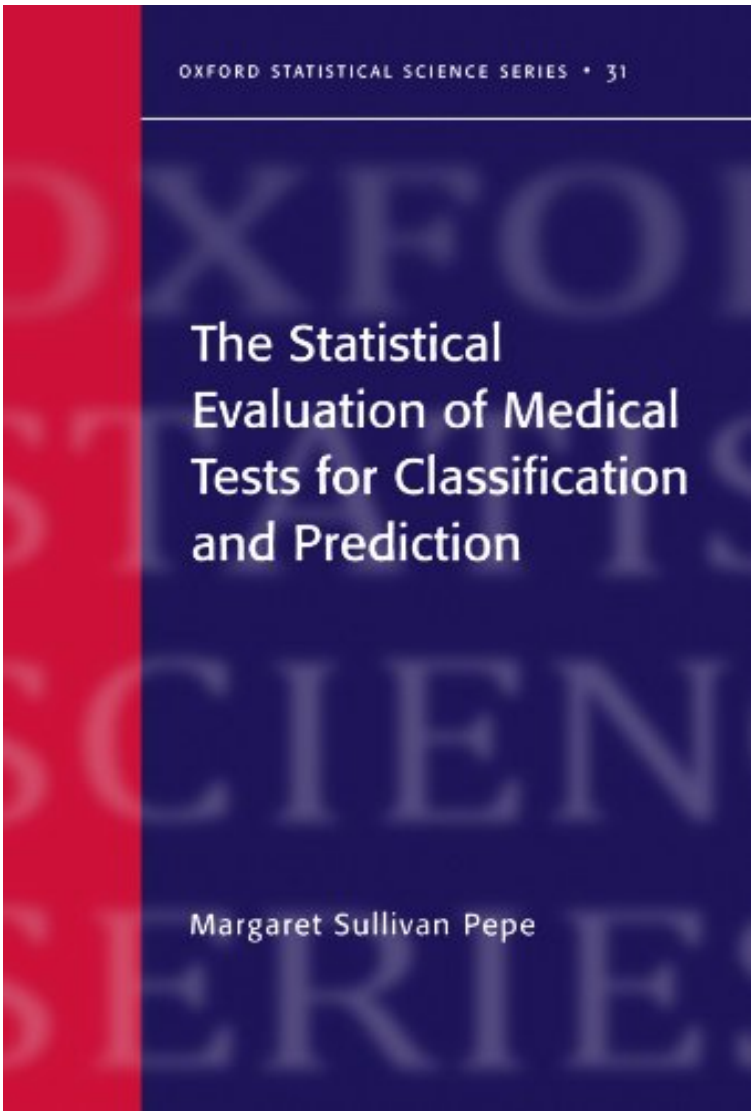
The Statistical Evaluation of Medical Tests for Classification and Prediction (Oxford Statistical Science Series)

Margaret Sullivan Pepe
**Download PDF | ePub | DOC | audiobook | ebooks*



#550938 in Books 2004-12-16Original language:EnglishPDF # 1 6.20 x .60 x 9.10l, 1.10 #File Name: 0198565828318 pages | File size: 54.Mb

Margaret Sullivan Pepe : The Statistical Evaluation of Medical Tests for Classification and Prediction (Oxford Statistical Science Series) before purchasing it in order to gage whether or not it would be worth my time, and all praised The Statistical Evaluation of Medical Tests for Classification and Prediction (Oxford Statistical Science Series):

0 of 0 people found the following review helpful. A must-read book for clinical researchers who study screeningBy

MargaretNCI ordered this book in 2006, shortly after completing a clinical research fellowship in epidemiology. There was no sense in reviewing it back then, but 9 years later, I can describe the practical value and "final product" of studying this text early in your career.This is the best book in the field by the statistician who is best known for this topic. With the help of Pepe's book and Zhou's book and a professor who was an expert in clinical research methods, I planned, conducted and published two diagnostic accuracy analyses of risk assessment tools, one of which has since been cited by the US Preventive Services Task Force. Every clinical research fellow who will or might study screening needs to read this book and practice a diagnostic accuracy analysis during fellowship because it will teach you universal skills in evaluation and interpretation of studies of screening. The two papers I published were part of the pilot data for a K23 career development award, my first of 3 NIH grants, so the material you learn from this book will also inform grants.0 of 0 people found the following review helpful. very useful. It covers pretty much all you need to ...By yet another readerTimeless book with clear explanations and practical, step by step instructions for how to analyze data. I found one chapter in particular, about study design and hypothesis testing for the development of a medical test, very useful. It covers pretty much all you need to know for the development of a medical test, from the big picture to how to perform the actual calculations. I found here some of the clearest explanations ever for why and how to estimate the necessary sample size and the power of the analysis during the various phases of developing a medical test.0 of 0 people found the following review helpful. Good strong introduction to understand how to use ROC curve to analyze medical tests.By W. YIPNice formal introduction to use ROC curve to evaluate medical tests diagnostics. It went through all the basic concepts such as sensitivity and specificity and the different measurements such as AUC and the binomal distribution to quantify the ROC curve. Unfortunatley, I was looking for one particular topic that the book did not cover - introduction of "reader" for the test diagnostics. It makes all the statistics very complicated as a result and an area which is not being covered well.

This book describes statistical concepts and techniques for evaluating medical diagnostic tests and biomarkers for detecting disease. More generally, the techniques pertain to the statistical classification problem for predicting a dichotomous outcome. Measures for quantifying test accuracy are described including sensitivity, specificity, predictive values, diagnostic likelihood ratios and the Receiver Operating Characteristic Curve that is commonly used for continuous and ordinal valued tests. Statistical procedures are presented for estimating and comparing them. Regression frameworks for assessing factors that influence test accuracy and for comparing tests while adjusting for such factors are presented. This book presents many worked examples of real data and should be of interest to practicing statisticians or quantitative researchers involved in the development of tests for classification or prediction in medicine.

"...[T]his is a timely book that appears to cover a gap in the existing literature...This book is well written."--Journal of the American Statistical AssociationAbout the AuthorMargaret Sullivan Pepe is a Professor of Biostatistics, University of Washington; Fred Hutchinson Cancer Research Center, Washington, U.S.A. . Margaret Sullivan Pepe is a Professor of Biostatistics, University of Washington; Fred Hutchinson Cancer Research Center, Washington, U.S.A. .