Bioelectrical Signal Processing in Cardiac and Neurological Applications

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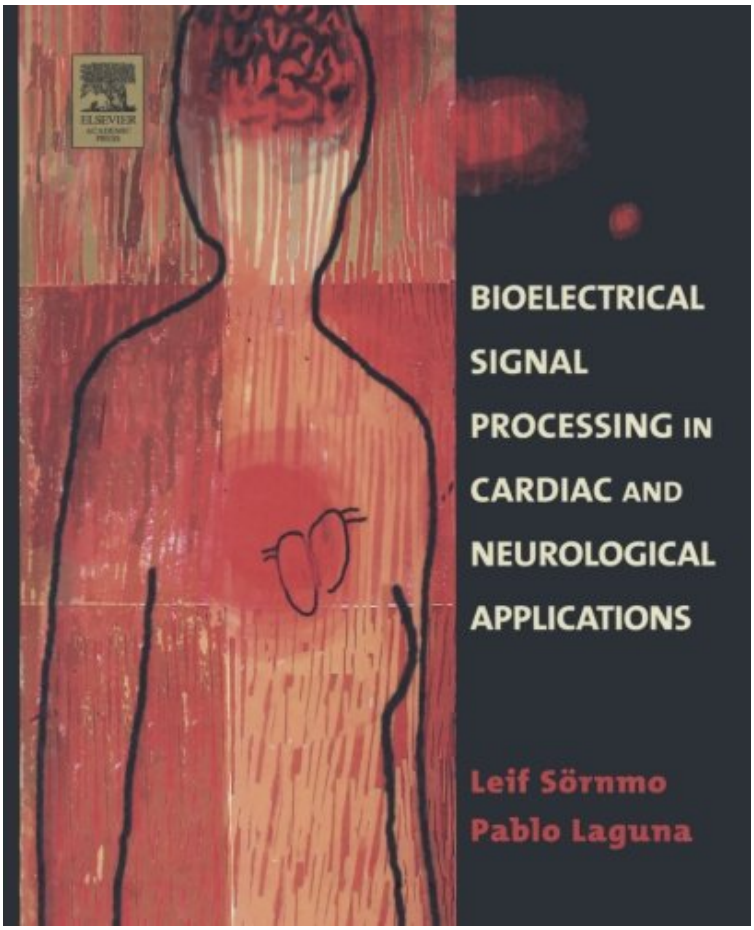

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Leif Srnmo, Pablo Laguna : Bioelectrical Signal Processing in Cardiac and Neurological Applications before purchasing it in order to gage whether or not it would be worth my time, and all praised Bioelectrical Signal Processing in Cardiac and Neurological Applications:

8 of 8 people found the following review helpful. Excellent text on statistical biomedical signal analysisBy S. ShohamI am using this book as a primary textbook in a Biomedical Engineering undergraduate course on Biomedical signal analysis. The students in this class come with a fairly good background in linear systems, stochastic processes and physiology, and the purpose of the course is to integrate this knowledge, and actually apply it to real-world statistical biomedical signals. Previous iterations of the course relied on a general statistical signals book (Bendat Piersol), together with physiological examples provided by the instructor, since physiological signals books were too shallow. The current book, however, elegantly integrates the statistical signal analysis topics with the relevant

biomedical applications, and it became an obvious choice. Moreover, unlike general engineering textbooks, this book doesn't shy away from methods for treating nonstationary signals (segmentation, time-frequency analysis, wavelets, detection...), as these are so fundamental in characterizing biomedical signals. Such topics are typically treated in a multitude of specialized books, and are therefore difficult to integrate coherently into a short course.To improve: since the book's focus is on EEG and ECG, it could be great if the authors added a chapter on source localization/inverse problems, which arise in both systems. Although this is a huge topic in its own, one could do some basic justice to this important topic in a limited space as well, and thereby introduce students to ill-posed problems and their regularization. I was also slightly dissapointed that there is very little on error bounds in compound estimates (correlation and spectral density functions).0 of 0 people found the following review helpful. And they are very comfortable for everyday useBy Brian SeniorThis definitely serves its purpose. These are fantastic good price and it works Overall I was impressed with this product Just as advertised. Good price and more than I expected I like its high quality. Everyone thinks I am so lucky to buy it.

The analysis of bioelectrical signals continues to receive wide attention in research as well as commercially because novel signal processing techniques have helped to uncover valuable information for improved diagnosis and therapy. This book takes a unique problem-driven approach to biomedical signal processing by considering a wide range of problems in cardiac and neurological applicationsthe two "heavyweight" areas of biomedical signal processing. The interdisciplinary nature of the topic is reflected in how the text interweaves physiological issues with related methodological considerations. Bioelectrical Signal Processing is suitable for a final year undergraduate or graduate course as well as for use as an authoritative reference for practicing engineers, physicians, and researchers. Solutions Manual available online at http://www.textbooks.elsevier.com A problem-driven, interdisciplinary presentation of biomedical signal processing Focus on methods for processing of bioelectrical signals (ECG, EEG, evoked potentials, EMG) Covers both classical and recent signal processing techniques Emphasis on model-based statistical signal processing Comprehensive exercises and illustrations Extensive bibliography For companion web site with project descriptions and signals for download see www.biosignal.lth.se

From the Back Cover A problem-driven, interdisciplinary presentation of biomedical signal processing Focus on methods for processing of bioelectrical signals (ECG, EEG, evoked potentials, EMG) Covers both classical and recent signal processing techniques Emphasis on model-based statistical signal processing Comprehensive exercises and illustrations Extensive bibliography Companion web site with project descriptions and signals for downloadThe analysis of bioelectrical signals continues to receive wide attention in research as well as commercially because novel signal processing techniques have helped to uncover valuable information for improved diagnosis and therapy. This book takes a unique problem-driven approach to biomedical signal processing by considering a wide range of problems in cardiac and neurological applicationsthe two "heavyweight" areas of biomedical signal processing. The interdisciplinary nature of the topic is reflected in how the text interweaves physiological issues with related methodological considerations. Bioelectrical Signal Processing in Cardiac and Neurological Applications is suitable for a final year undergraduate or graduate course as well as for use as an authoritative reference for practicing engineers, physicians, and researchers.About the AuthorDepartment of Electrical Engineering, Lund University, Sweden