



Biomedical Signal Analysis: A Case-Study Approach

By Rangaraj M. Rangayyan

Download now

Read Online 

Biomedical Signal Analysis: A Case-Study Approach By Rangaraj M. Rangayyan

The development of techniques to analyze biomedical signals, such as electrocardiograms, has dramatically affected countless lives by making possible improved noninvasive diagnosis, online monitoring of critically ill patients, and rehabilitation and sensory aids for the handicapped. Rangaraj Rangayyan supplies a practical, hands-on field guide to this constantly evolving technology in *Biomedical Signal Analysis*, focusing on the diagnostic challenges that medical professionals continue to face. Dr. Rangayyan applies a problem-solving approach to his study. Each chapter begins with the statement of a different biomedical signal problem, followed by a selection of real-life case studies and the associated signals. Signal processing, modeling, or analysis techniques are then presented, starting with relatively simple "textbook" methods, followed by more sophisticated research approaches. The chapter concludes with one or more application solutions; illustrations of real-life biomedical signals and their derivatives are included throughout.

Among the topics addressed are:

- Concurrent, coupled, and correlated processes
- Filtering for removal of artifacts
- Event detection and characterization
- Frequency-domain characterization
- Modeling biomedical systems
- Analysis of nonstationary signals
- Pattern classification and diagnostic decision

The chapters also present a number of laboratory exercises, study questions, and problems to facilitate preparation for class examinations and practical applications. *Biomedical Signal Analysis* provides a definitive resource for upper-level under-graduate and graduate engineering students, as well as for practicing engineers, computer scientists, information technologists, medical physicists, and data processing specialists.

An authoritative assessment of the problems and applications of biomedical signals, rooted in practical case studies

 [Download Biomedical Signal Analysis: A Case-Study Approach ...pdf](#)

 [Read Online Biomedical Signal Analysis: A Case-Study Approac ...pdf](#)

Biomedical Signal Analysis: A Case-Study Approach

By Rangaraj M. Rangayyan

Biomedical Signal Analysis: A Case-Study Approach By Rangaraj M. Rangayyan

The development of techniques to analyze biomedical signals, such as electro-cardiograms, has dramatically affected countless lives by making possible improved noninvasive diagnosis, online monitoring of critically ill patients, and rehabilitation and sensory aids for the handicapped. Rangaraj Rangayyan supplies a practical, hands-on field guide to this constantly evolving technology in *Biomedical Signal Analysis*, focusing on the diagnostic challenges that medical professionals continue to face. Dr. Rangayyan applies a problem-solving approach to his study. Each chapter begins with the statement of a different biomedical signal problem, followed by a selection of real-life case studies and the associated signals. Signal processing, modeling, or analysis techniques are then presented, starting with relatively simple "textbook" methods, followed by more sophisticated research approaches. The chapter concludes with one or more application solutions; illustrations of real-life biomedical signals and their derivatives are included throughout.

Among the topics addressed are:

- Concurrent, coupled, and correlated processes
- Filtering for removal of artifacts
- Event detection and characterization
- Frequency-domain characterization
- Modeling biomedical systems
- Analysis of nonstationary signals
- Pattern classification and diagnostic decision

The chapters also present a number of laboratory exercises, study questions, and problems to facilitate preparation for class examinations and practical applications. *Biomedical Signal Analysis* provides a definitive resource for upper-level under-graduate and graduate engineering students, as well as for practicing engineers, computer scientists, information technologists, medical physicists, and data processing specialists.

An authoritative assessment of the problems and applications of biomedical signals, rooted in practical case studies

Biomedical Signal Analysis: A Case-Study Approach By Rangaraj M. Rangayyan Bibliography

- Sales Rank: #2267274 in Books
- Published on: 2001-12-21
- Ingredients: Example Ingredients
- Original language: English
- Number of items: 1
- Dimensions: 9.29" h x 1.63" w x 6.36" l, 2.10 pounds
- Binding: Hardcover
- 552 pages

 [**Download** Biomedical Signal Analysis: A Case-Study Approach ...pdf](#)

 [**Read Online** Biomedical Signal Analysis: A Case-Study Approac ...pdf](#)

Download and Read Free Online Biomedical Signal Analysis: A Case-Study Approach By Rangaraj M. Rangayyan

Editorial Review

Review

"In addition to serving as an excellent text in biomedical signal processing, this book can serve as a great reference source...there is a great need for a book on biomedical signal processing...this easy to follow book fills that need." (*Annals of Biomedical Engineering*, July 2002)

"This book takes a problem-solving approach to biomedical signal analysis." (*IEEE Signal Processing Magazine*, Vol. 19, No. 4, July 2002)

From the Back Cover

An authoritative assessment of the problems and applications of biomedical signals, rooted in practical case studies

The development of techniques to analyze biomedical signals, such as electro-cardiograms, has dramatically affected countless lives by making possible improved noninvasive diagnosis, online monitoring of critically ill patients, and rehabilitation and sensory aids for the handicapped. Rangaraj Rangayyan supplies a practical, hands-on field guide to this constantly evolving technology in Biomedical Signal Analysis, focusing on the diagnostic challenges that medical professionals continue to face. Dr. Rangayyan applies a problem-solving approach to his study. Each chapter begins with the statement of a different biomedical signal problem, followed by a selection of real-life case studies and the associated signals. Signal processing, modeling, or analysis techniques are then presented, starting with relatively simple "textbook" methods, followed by more sophisticated research approaches. The chapter concludes with one or more application solutions; illustrations of real-life biomedical signals and their derivatives are included throughout. Among the topics addressed are:

- * Concurrent, coupled, and correlated processes
- * Filtering for removal of artifacts
- * Event detection and characterization
- * Frequency-domain characterization
- * Modeling biomedical systems
- * Analysis of nonstationary signals
- * Pattern classification and diagnostic decision

The chapters also present a number of laboratory exercises, study questions, and problems to facilitate preparation for class examinations and practical applications. Biomedical Signal Analysis provides a definitive resource for upper-level under-graduate and graduate engineering students, as well as for practicing engineers, computer scientists, information technologists, medical physicists, and data processing specialists.

About the Author

RANGARAJ M. RANGAYYAN, PhD, is Professor in the Department of Electrical and Computer Engineering at the University of Calgary in Calgary, Alberta, Canada, where he received the 1997 and 2001 Research Excellence Awards and the Killam Resident Fellowship in support of writing this book. He earned his doctorate in electrical engineering from the India Institute of Science in Bangalore, India. He is a Fellow of the IEEE, and was awarded the Third Millennium Medal of the IEEE in 2000.

Users Review

From reader reviews:

Adelina Thompson:

Typically the book Biomedical Signal Analysis: A Case-Study Approach has a lot of knowledge on it. So when you check out this book you can get a lot of benefit. The book was compiled by the very famous author. This articles author makes some research prior to write this book. This book very easy to read you may get the point easily after reading this article book.

Richard Ortega:

Many people spending their time period by playing outside together with friends, fun activity along with family or just watching TV all day long. You can have new activity to spend your whole day by reading a book. Ugh, do you consider reading a book will surely hard because you have to bring the book everywhere? It ok you can have the e-book, getting everywhere you want in your Smartphone. Like Biomedical Signal Analysis: A Case-Study Approach which is finding the e-book version. So , try out this book? Let's notice.

Kathy Fredette:

As we know that book is significant thing to add our expertise for everything. By a e-book we can know everything we wish. A book is a pair of written, printed, illustrated or maybe blank sheet. Every year seemed to be exactly added. This reserve Biomedical Signal Analysis: A Case-Study Approach was filled about science. Spend your spare time to add your knowledge about your scientific research competence. Some people has distinct feel when they reading a book. If you know how big advantage of a book, you can sense enjoy to read a guide. In the modern era like today, many ways to get book that you wanted.

William Pettigrew:

That publication can make you to feel relax. That book Biomedical Signal Analysis: A Case-Study Approach was bright colored and of course has pictures on the website. As we know that book Biomedical Signal Analysis: A Case-Study Approach has many kinds or category. Start from kids until adolescents. For example Naruto or Investigator Conan you can read and feel that you are the character on there. Therefore , not at all of book are make you bored, any it makes you feel happy, fun and loosen up. Try to choose the best book for yourself and try to like reading this.

Download and Read Online Biomedical Signal Analysis: A Case-Study Approach By Rangaraj M. Rangayyan #BUEMXOQRSH3

Read Biomedical Signal Analysis: A Case-Study Approach By Rangaraj M. Rangayyan for online ebook

Biomedical Signal Analysis: A Case-Study Approach By Rangaraj M. Rangayyan Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Biomedical Signal Analysis: A Case-Study Approach By Rangaraj M. Rangayyan books to read online.

Online Biomedical Signal Analysis: A Case-Study Approach By Rangaraj M. Rangayyan ebook PDF download

Biomedical Signal Analysis: A Case-Study Approach By Rangaraj M. Rangayyan Doc

Biomedical Signal Analysis: A Case-Study Approach By Rangaraj M. Rangayyan MobiPocket

Biomedical Signal Analysis: A Case-Study Approach By Rangaraj M. Rangayyan EPub