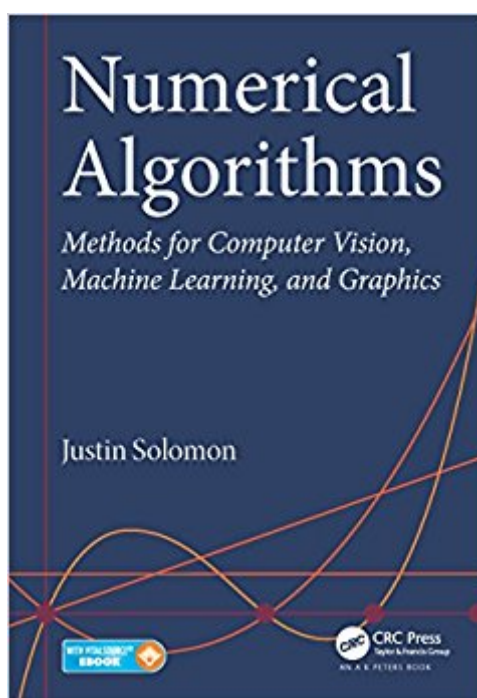The book was found

Numerical Algorithms: Methods For Computer Vision, Machine Learning, And Graphics

Synopsis

Numerical Algorithms: Methods for Computer Vision, Machine Learning, and Graphics presents a new approach to numerical analysis for modern computer scientists. Using examples from a broad base of computational tasks, including data processing, computational photography, and animation, the textbook introduces numerical modeling and algorithmic design from a practical standpoint and provides insight into the theoretical tools needed to support these skills.The book covers a wide range of topicsâ "from numerical linear algebra to optimization and differential equationsâ "focusing on real-world motivation and unifying themes. It incorporates cases from computer science research and practice, accompanied by highlights from in-depth literature on each subtopic. Comprehensive end-of-chapter exercises encourage critical thinking and build studentsâ ™ intuition while introducing extensions of the basic material.The text is designed for advanced undergraduate and beginning graduate students in computer science and related fields with experience in calculus and linear algebra. For students with a background in discrete mathematics, the book includes some reminders of relevant continuous mathematical background.

Book Information

File Size: 19387 KB

Print Length: 400 pages

Publisher: A K Peters/CRC Press; 1 edition (June 24, 2015)

Publication Date: June 24, 2015

Sold by:Â Digital Services LLC

Language: English

ASIN: B010POKE0G

Text-to-Speech: Not enabled

X-Ray: Not Enabled

Word Wise: Not Enabled

Lending: Not Enabled

Enhanced Typesetting: Not Enabled

Best Sellers Rank: #294,840 Paid in Kindle Store (See Top 100 Paid in Kindle Store) #12 inÂ Kindle Store > Kindle eBooks > Nonfiction > Science > Mathematics > Number Systems #57 inÂ Kindle Store > Kindle eBooks > Engineering & Transportation > Engineering > Mechanical > Robotics #59 inÂ Books > Science & Math > Mathematics > Number Systems

Customer Reviews

My opinions of this book may be slightly colored by the fact that I was previously a TA for his course. Nonetheless, I think Justin's book is one of the best introductions to "Methods for Computer Vision, Machine Learning, and Graphics" around. It manages to cover a broad range of foundational topics typically covered in their own full-semester courses, such as numerical linear algebra, scientific computing, optimization, and numerical ODEs/PDEs. One of the strengths of the book is that it presents a well-written, holistic overview of these areas with many practical examples and exercises. Another strength is that it uses the language of optimization to frame many of the problems in the later chapters. For those familiar with Stephen Boyd's book on Convex Optimization, I found the overall style to be similar in terms of the balance between theory and practice. I wish I had read this book before all of my PhD coursework--alas, it hadn't been written yet.Please make sure to consult the errata for the first edition; there were a few typos that came up during the course. I don't believe they detract from the exposition however.

I took Justin's class at Stanford, for which we used this book. I don't have a computer science background, so the subject matter was definitely new to me. In his book, Justin did a great job at presenting the material by explaining everything clearly and organizing things in just the right way. Most everything in the book is derived from first principles, which is key to truly understanding the material. Furthermore, the exercises (while admittedly challenging) do a great job at reinforcing what is being learned.

I have read this book before it was publish because I was a student in Justin's class in Stanford. I think it's one of best "advanced introduction" books on numerical methods. It's clear, it's contemporary, there are a lot of excellent example in graphics, machine learning and other areas, also after each chapter there are interesting exercises from easy ones to open-ending hard problems.I think the main "plus" of the book that it's gave intuition to reader for many hard problems such as optimization problem, least-squares problems, iterative methods and so on.Also, in my opinion, linear algebra and it's applications, optimization, non-linear problems are considered in more details than differential equation, giving only intuition and some insights for last topic.In summary: excellent book on numeric methods for all CS students. I think it's will be very good to read this book before studying machine learning and it's applications and variations.

Justin's book is a fantastic treatment of numerical computing. Error anaylsis, linear algebra, optimization: this book covers all the fundamentals for anyone interested in computational science

and applications. The book is clear, well written, with plenty of examples. Highly recommended for students, teachers, and practitioners.

Justin's book is an invaluable resource for understanding numerical methods. As I further my studies in computer vision and machine learning, I'm constantly referencing "Numerical Algorithms" for clear explanations of ubiquitous optimization algorithms and matrix factorizations.Highly recommended for anybody interested in ML, CV, graphics, robotics, optimization and the like.

love it.

Numerical Algorithms: Methods for Computer Vision, Machine Learning, and Graphics Machine Learning: For Beginners: Definitive Guide for Neural Networks, Algorithms, Random Forests and Decision Trees Made Simple (Machine Learning, Book 1) Numerical Methods: Design, Analysis, and Computer Implementation of Algorithms Computer Vision: Algorithms and Applications (Texts in Computer Science) Biological Modeling and Simulation: A Survey of Practical Models, Algorithms, and Numerical Methods (Computational Molecular Biology) Machine Learning: Fundamental Algorithms for Supervised and Unsupervised Learning With Real-World Applications Algorithms for Reinforcement Learning (Synthesis Lectures on Artificial Intelligence and Machine Learning) Machine Trading: Deploying Computer Algorithms to Conquer the Markets (Wiley Trading) Machine Learning: A Probabilistic Perspective (Adaptive Computation and Machine Learning series) Introduction to Machine Learning (Adaptive Computation and Machine Learning series) Machine Learning: An Algorithmic Perspective, Second Edition (Chapman & Hall/Crc Machine Learning & Pattern Recognition) Eye Exercises to Improve Vision: Recover Your Vision Naturally with Simple Exercises (Vision Training) Learning Processing, Second Edition: A Beginner's Guide to Programming Images, Animation, and Interaction (The Morgan Kaufmann Series in Computer Graphics) Machine Learning for Hackers: Case Studies and Algorithms to Get You Started Genetic Algorithms in Search, Optimization, and Machine Learning Fundamentals of Machine Learning for Predictive Data Analytics: Algorithms, Worked Examples, and Case Studies (MIT Press) Fundamentals of Deep Learning: Designing Next-Generation Machine Intelligence Algorithms BREAD MACHINE COOKBOOK: 120 Most Delicious Bread Machine Recipes (bread, bread bible, bread makers, breakfast, bread machine cookbook, bread baking, bread making, healthy, healthy recipes) 1st Grade Computer Basics : The Computer and Its Parts: Computers for Kids First Grade (Children's Computer Hardware Books) Accuracy and Stability of Numerical Algorithms

Contact Us

DMCA

Privacy

FAQ & Help