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Digital Self-tuning Controllers - Vladimír Bobál

2005-05-19

Practical emphasis to teach students to use the powerful ideas of adaptive control in real

applications Custom-made Matlab® functionality to facilitate the design and construction of self-tuning controllers for different processes and systems Examples, tutorial exercises and clearly

laid-out flowcharts and formulae to make the subject simple to follow for students and to help tutors with class preparation

MATLAB Guide - Desmond J. Higham 2000-01-01  
Mathematics of Computing -- Mathematical Software.

Handbook on Battery Energy Storage System - Asian Development Bank 2018-12-01

This handbook serves as a guide to deploying battery energy storage technologies, specifically for distributed energy resources and flexibility resources. Battery energy storage technology is the most promising, rapidly developed technology as it provides higher efficiency and ease of control. With energy transition through decarbonization and decentralization, energy storage plays a significant role to enhance grid efficiency by alleviating volatility from demand and supply. Energy storage also contributes to the grid integration of renewable energy and promotion of microgrid.

*MIMO-OFDM Wireless Communications with*

*MATLAB* - Yong Soo Cho 2010-08-20

MIMO-OFDM is a key technology for next-generation cellular communications (3GPP-LTE, Mobile WiMAX, IMT-Advanced) as well as wireless LAN (IEEE 802.11a, IEEE 802.11n), wireless PAN (MB-OFDM), and broadcasting (DAB, DVB, DMB). In *MIMO-OFDM Wireless Communications with MATLAB®*, the authors provide a comprehensive introduction to the theory and practice of wireless channel modeling, OFDM, and MIMO, using MATLAB® programs to simulate the various techniques on MIMO-OFDM systems. One of the only books in the area dedicated to explaining simulation aspects Covers implementation to help cement the key concepts Uses materials that have been classroom-tested in numerous universities Provides the analytic solutions and practical examples with downloadable MATLAB® codes Simulation examples based on actual industry and research projects Presentation slides with key equations and figures for instructor use

MIMO-OFDM Wireless Communications with MATLAB® is a key text for graduate students in wireless communications. Professionals and technicians in wireless communication fields, graduate students in signal processing, as well as senior undergraduates majoring in wireless communications will find this book a practical introduction to the MIMO-OFDM techniques. Instructor materials and MATLAB® code examples available for download at [www.wiley.com/go/chomimo](http://www.wiley.com/go/chomimo)

**A Guide to MATLAB** - Brian R. Hunt  
2014-08-21

"MATLAB is a high-level language and interactive environment for numerical computation, visualization, and programming. Using MATLAB, you can analyze data, develop algorithms, and create models and applications. The language, tools, and built-in math functions enable you to explore multiple approaches and reach a solution faster than with spreadsheets or traditional programming languages"--

**Matlab** - Stormy Attaway 2013-06-03

MatLab, Third Edition is the only book that gives a full introduction to programming in MATLAB combined with an explanation of the software's powerful functions, enabling engineers to fully exploit its extensive capabilities in solving engineering problems. The book provides a systematic, step-by-step approach, building on concepts throughout the text, facilitating easier learning. Sections on common pitfalls and programming guidelines direct students towards best practice. The book is organized into 14 chapters, starting with programming concepts such as variables, assignments, input/output, and selection statements; moves onto loops; and then solves problems using both the 'programming concept' and the 'power of MATLAB' side-by-side. In-depth coverage is given to input/output, a topic that is fundamental to many engineering applications. Vectorized Code has been made into its own chapter, in order to emphasize the importance of using

MATLAB efficiently. There are also expanded examples on low-level file input functions, Graphical User Interfaces, and use of MATLAB Version R2012b; modified and new end-of-chapter exercises; improved labeling of plots; and improved standards for variable names and documentation. This book will be a valuable resource for engineers learning to program and model in MATLAB, as well as for undergraduates in engineering and science taking a course that uses (or recommends) MATLAB. Presents programming concepts and MATLAB built-in functions side-by-side Systematic, step-by-step approach, building on concepts throughout the book, facilitating easier learning Sections on common pitfalls and programming guidelines direct students towards best practice

**Learning to Program with MATLAB** - Craig S. Lent 2013-01-09

The text is for instructors who want to use MATLAB to teach introductory programming concepts. Since many students struggle with

applying the concepts that underlie good programming practice, Learning to Program with MATLAB: Building GUI Tools was designed upon the observation that student learning is enhanced if the students themselves build the GUI (graphical user interface) tool, construct the computational model, implement the visualization of results, and design the GUI. This text teaches the core concepts of computer programming—arrays, loops, functions, and basic data structures—using MATLAB. The chapter sequence covers text-based programs, then programs that produce graphics, building up to an emphasis on GUI tools. This progression unleashes the real power of MATLAB—creating visual expressions of the underlying mathematics of a problem or design.

**Guide to Scientific Computing in C++** - Joe Pitt-Francis 2012-02-15

This easy-to-read textbook/reference presents an essential guide to object-oriented C++ programming for scientific computing. With a

practical focus on learning by example, the theory is supported by numerous exercises. Features: provides a specific focus on the application of C++ to scientific computing, including parallel computing using MPI; stresses the importance of a clear programming style to minimize the introduction of errors into code; presents a practical introduction to procedural programming in C++, covering variables, flow of control, input and output, pointers, functions, and reference variables; exhibits the efficacy of classes, highlighting the main features of object-orientation; examines more advanced C++ features, such as templates and exceptions; supplies useful tips and examples throughout the text, together with chapter-ending exercises, and code available to download from Springer.

**MATLAB for Neuroscientists** - Pascal Wallisch  
2014-01-09

MATLAB for Neuroscientists serves as the only complete study manual and teaching resource for MATLAB, the globally accepted standard for

scientific computing, in the neurosciences and psychology. This unique introduction can be used to learn the entire empirical and experimental process (including stimulus generation, experimental control, data collection, data analysis, modeling, and more), and the 2nd Edition continues to ensure that a wide variety of computational problems can be addressed in a single programming environment. This updated edition features additional material on the creation of visual stimuli, advanced psychophysics, analysis of LFP data, choice probabilities, synchrony, and advanced spectral analysis. Users at a variety of levels—advanced undergraduates, beginning graduate students, and researchers looking to modernize their skills—will learn to design and implement their own analytical tools, and gain the fluency required to meet the computational needs of neuroscience practitioners. The first complete volume on MATLAB focusing on neuroscience and psychology applications

Problem-based approach with many examples from neuroscience and cognitive psychology using real data Illustrated in full color throughout Careful tutorial approach, by authors who are award-winning educators with strong teaching experience

**MATLAB® and Design Recipes for Earth Sciences** - Martin H. Trauth 2012-09-14

The overall aim of the book is to introduce students to the typical course followed by a data analysis project in earth sciences. A project usually involves searching relevant literature, reviewing and ranking published books and journal articles, extracting relevant information from the literature in the form of text, data, or graphs, searching and processing the relevant original data using MATLAB, and compiling and presenting the results as posters, abstracts, and oral presentations using graphics design software. The text of this book includes numerous examples on the use of internet resources, on the visualization of data with

MATLAB, and on preparing scientific presentations. As with its sister book MATLAB Recipes for Earth Sciences-3rd Edition (2010), which demonstrates the use of statistical and numerical methods on earth science data, this book uses state-of-the art software packages, including MATLAB and the Adobe Creative Suite, to process and present geoscientific information collected during the course of an earth science project. The book's supplementary electronic material (available online through the publisher's website) includes color versions of all figures, recipes with all the MATLAB commands featured in the book, the example data, exported MATLAB graphics, and screenshots of the most important steps involved in processing the graphics.

A MATLAB Exercise Book - Ludmila Kuncheva 2014-06-18

A practical guide to problem solving using MATLAB. Designed to complement a taught course introducing MATLAB but ideally suited

for any beginner. This book provides a brief tour of some of the tasks that MATLAB is perfectly suited to instead of focusing on any particular topic. Providing instruction, guidance and a large supply of exercises, this book is meant to stimulate problem-solving skills rather than provide an in-depth knowledge of the MATLAB language.

*An Engineer's Guide to MATLAB* - Edward B. Magrab 2011

*An Engineer's Guide to MATLAB*, 3/e, is an authoritative guide to generating readable, compact, and verifiably correct MATLAB programs. It is ideal for undergraduate engineering courses in Mechanical, Aeronautical, Civil, and Electrical engineering that require/use MATLAB. This highly respected guide helps students develop a strong working knowledge of MATLAB that can be used to solve a wide range of engineering problems. Since solving these problems usually involves writing relatively short, one-time-use programs, the

authors demonstrate how to effectively develop programs that are compact yet readable, easy to debug, and quick to execute. Emphasis is on using MATLAB to obtain solutions to several classes of engineering problems, so technical material is presented in summary form only. The new edition has been thoroughly revised and tested for software release 2009.

*R in Finance and Economics* - Abhay Kumar Singh 2016-12-14

This book provides an introduction to the statistical software R and its application with an empirical approach in finance and economics. It is specifically targeted towards undergraduate and graduate students. It provides beginner-level introduction to R using RStudio and reproducible research examples. It will enable students to use R for data cleaning, data visualization and quantitative model building using statistical methods like linear regression, econometrics (GARCH etc), Copulas, etc. Moreover, the book demonstrates latest

research methods with applications featuring linear regression, quantile regression, panel regression, econometrics, dependence modelling, etc. using a range of data sets and examples. Request Inspection Copy

**MATLAB** - Scott T. Smith 2006

After more than 20 years of development, MATLAB has evolved from a powerful matrix calculation application into a universal programming tool used extensively within scientific and engineering communities both commercial and academic. MATLAB versions 6.x and 7.x include functionality for developing advanced graphical user interfaces, GUIs, and real-time animation and graphics. GUI applications offer many advantages for users who wish to solve complex problems by providing interactivity and visual feedback. Some common examples of application areas where GUI development is desirable: .Image and Video Processing .Signal Processing .Communications .Simulation of Complex

Systems .Instrumentation and Data Acquisition Interfaces .Control Systems .Financial Analysis .Animation of 2D or 3D Graphical Data This text introduces you to the capabilities of MATLAB for GUI development and covers the following areas in detail: .Handle Graphics(r) programming and low-level GUIs .High-level GUI development using GUIDE .The structure of GUIs including event processing, callbacks, timers, and real-time animation of plots / data .Advanced GUI architectures including multiple figure GUIs and image mapped interface controls Instructional examples and exercises are provided throughout each chapter that offers a hands-on approach to learning MATLAB GUI development. The M-file code for each example and exercise solution is available for download on the web to help you quickly learn how to develop your own GUIs! About The Author Scott T. Smith received his MSEE degree from SUNY at Buffalo in the fields of image sensor applications and image processing. He currently works for Micron

Technology Inc. in California as an Imaging Engineer and has 10 years of experience working with MATLAB and developing GUI applications. Previous work experience includes 3 years at the David Sarnoff Research Center (Former RCA Research Labs) in Princeton, NJ as an Associate Member of the Technical Staff in the Advanced Imaging Group as well 3 years as an R&D engineer for an X-ray/scientific imaging company. He is a member of SPIE and IEEE and is an author or co-author of several papers and patents in the field of imaging.

MATLAB Guide, Third Edition - Desmond J. Higham 2016-12-27

MATLAB is an interactive system for numerical computation that is widely used for teaching and research in industry and academia. It provides a modern programming language and problem solving environment, with powerful data structures, customizable graphics, and easy-to-use editing and debugging tools. This third edition of MATLAB Guide completely revises and

updates the best-selling second edition and is more than 30 percent longer. The book remains a lively, concise introduction to the most popular and important features of MATLAB and the Symbolic Math Toolbox. Key features are a tutorial in Chapter 1 that gives a hands-on overview of MATLAB; a thorough treatment of MATLAB mathematics, including the linear algebra and numerical analysis functions and the differential equation solvers; and a web page at <http://www.siam.org/books/ot150> that provides example program files, updates, and links to MATLAB resources. The new edition contains color figures throughout; includes pithy discussions of related topics in new "Asides" boxes that augment the text; has new chapters on the Parallel Computing Toolbox, object-oriented programming, graphs, and large data sets; covers important new MATLAB data types such as categorical arrays, string arrays, tall arrays, tables, and timetables; contains more on MATLAB workflow, including the Live Editor and

unit tests; and fully reflects major updates to the MATLAB graphics system. This book is suitable for both beginners and more experienced users, including students, researchers, and practitioners.

**Python for Data Analysis** - Wes McKinney  
2017-09-25

Get complete instructions for manipulating, processing, cleaning, and crunching datasets in Python. Updated for Python 3.6, the second edition of this hands-on guide is packed with practical case studies that show you how to solve a broad set of data analysis problems effectively. You'll learn the latest versions of pandas, NumPy, IPython, and Jupyter in the process. Written by Wes McKinney, the creator of the Python pandas project, this book is a practical, modern introduction to data science tools in Python. It's ideal for analysts new to Python and for Python programmers new to data science and scientific computing. Data files and related material are available on GitHub. Use

the IPython shell and Jupyter notebook for exploratory computing Learn basic and advanced features in NumPy (Numerical Python) Get started with data analysis tools in the pandas library Use flexible tools to load, clean, transform, merge, and reshape data Create informative visualizations with matplotlib Apply the pandas groupby facility to slice, dice, and summarize datasets Analyze and manipulate regular and irregular time series data Learn how to solve real-world data analysis problems with thorough, detailed examples

**Trino: The Definitive Guide** - Matt Fuller  
2021-04-14

Perform fast interactive analytics against different data sources using the Trino high-performance distributed SQL query engine. With this practical guide, you'll learn how to conduct analytics on data where it lives, whether it's Hive, Cassandra, a relational database, or a proprietary data store. Analysts, software engineers, and production engineers will learn

how to manage, use, and even develop with Trino. Initially developed by Facebook, open source Trino is now used by Netflix, Airbnb, LinkedIn, Twitter, Uber, and many other companies. Matt Fuller, Manfred Moser, and Martin Traverso show you how a single Trino query can combine data from multiple sources to allow for analytics across your entire organization. Get started: Explore Trino's use cases and learn about tools that will help you connect to Trino and query data Go deeper: Learn Trino's internal workings, including how to connect to and query data sources with support for SQL statements, operators, functions, and more Put Trino in production: Secure Trino, monitor workloads, tune queries, and connect more applications; learn how other organizations apply Trino

[Creating Mobile Apps with Xamarin.Forms](#)

[Preview Edition 2](#) - Charles Petzold 2015-04-11

This second Preview Edition ebook, now with 16 chapters, is about writing applications for

Xamarin.Forms, the new mobile development platform for iOS, Android, and Windows phones unveiled by Xamarin in May 2014.

Xamarin.Forms lets you write shared user-interface code in C# and XAML that maps to native controls on these three platforms.

**MATLAB Primer, Eighth Edition** - Timothy A. Davis 2010-08-18

Highlighting the new aspects of MATLAB® 7.10 and expanding on many existing features, MATLAB® Primer, Eighth Edition shows you how to solve problems in science, engineering, and mathematics. Now in its eighth edition, this popular primer continues to offer a hands-on, step-by-step introduction to using the powerful tools of MATLAB. New to the Eighth Edition A new chapter on object-oriented programming Discussion of the MATLAB File Exchange window, which provides direct access to over 10,000 submissions by MATLAB users Major changes to the MATLAB Editor, such as code folding and the integration of the Code Analyzer

(M-Lint) into the Editor Explanation of more powerful Help tools, such as quick help popups for functions via the Function Browser The new bsxfun function A synopsis of each of the MATLAB Top 500 most frequently used functions, operators, and special characters The addition of several useful features, including sets, logical indexing, isequal, repmat, reshape, varargin, and varargout The book takes you through a series of simple examples that become progressively more complex. Starting with the core components of the MATLAB desktop, it demonstrates how to handle basic matrix operations and expressions in MATLAB. The text then introduces commonly used functions and explains how to write your own functions, before covering advanced features, such as object-oriented programming, calling other languages from MATLAB, and MATLAB graphics. It also presents an in-depth look at the Symbolic Toolbox, which solves problems analytically rather than numerically.

## **Essential MATLAB for Scientists and Engineers** - Brian Hahn 2001-12-21

Based on a teach-yourself approach, the fundamentals of MATLAB are illustrated throughout with many examples from a number of different scientific and engineering areas, such as simulation, population modelling, and numerical methods, as well as from business and everyday life. Some of the examples draw on first-year university level maths, but these are self-contained so that their omission will not detract from learning the principles of using MATLAB. This completely revised new edition is based on the latest version of MATLAB. New chapters cover handle graphics, graphical user interfaces (GUIs), structures and cell arrays, and importing/exporting data. The chapter on numerical methods now includes a general GUI-driver ODE solver. \* Maintains the easy informal style of the first edition \* Teaches the basic principles of scientific programming with MATLAB as the vehicle \* Covers the latest

version of MATLAB

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*Elementary Linear Algebra* - Howard Anton  
2019-02-20

Elementary Linear Algebra 12th edition gives an elementary treatment of linear algebra that is suitable for a first course for undergraduate students. The aim is to present the fundamentals of linear algebra in the clearest possible way; pedagogy is the main consideration. Calculus is not a prerequisite, but there are clearly labeled exercises and examples (which can be omitted without loss of continuity) for students who have studied calculus.

**Guide to NumPy** - Travis Oliphant 2015-09-15  
This is the second edition of Travis Oliphant's A Guide to NumPy originally published electronically in 2006. It is designed to be a reference that can be used by practitioners who are familiar with Python but want to learn more about NumPy and related tools. In this updated

edition, new perspectives are shared as well as descriptions of new distributed processing tools in the ecosystem, and how Numba can be used to compile code using NumPy arrays. Travis Oliphant is the co-founder and CEO of Continuum Analytics. Continuum Analytics develops Anaconda, the leading modern open source analytics platform powered by Python. Travis, who is a passionate advocate of open source technology, has a Ph.D. from Mayo Clinic and B.S. and M.S. degrees in Mathematics and Electrical Engineering from Brigham Young University. Since 1997, he has worked extensively with Python for computational and data science. He was the primary creator of the NumPy package and founding contributor to the SciPy package. He was also a co-founder and past board member of NumFOCUS, a non-profit for reproducible and accessible science that supports the PyData stack. He also served on the board of the Python Software Foundation.

Numerical Computing with MATLAB - Cleve B.

Moler 2010-08-12

A revised textbook for introductory courses in numerical methods, MATLAB and technical computing, which emphasises the use of mathematical software.

MATLAB Handbook with Applications to Mathematics, Science, Engineering, and Finance

- Jose Miguel David Baez-Lopez 2019-01-21

The purpose of this handbook is to allow users to learn and master the mathematics software package MATLAB®, as well as to serve as a quick reference to some of the most used instructions in the package. A unique feature of this handbook is that it can be used by the novice and by experienced users alike. For experienced users, it has four chapters with examples and applications in engineering, finance, physics, and optimization. Exercises are included, along with solutions available for the interested reader on the book's web page. These exercises are a complement for the interested reader who wishes to get a deeper

understanding of MATLAB. Features Covers both MATLAB and introduction to Simulink Covers the use of GUIs in MATLAB and Simulink Offers downloadable examples and programs from the handbook's website Provides an introduction to object oriented programming using MATLAB Includes applications from many areas Includes the realization of executable files for MATLAB programs and Simulink models

**Digital Signal Processing Using MATLAB -**

Vinay K. Ingle 2007

This supplement to any standard DSP text is one of the first books to successfully integrate the use of MATLAB® in the study of DSP concepts. In this book, MATLAB® is used as a computing tool to explore traditional DSP topics, and solve problems to gain insight. This greatly expands the range and complexity of problems that students can effectively study in the course. Since DSP applications are primarily algorithms implemented on a DSP processor or software, a fair amount of programming is required. Using

interactive software such as MATLAB® makes it possible to place more emphasis on learning new and difficult concepts than on programming algorithms. Interesting practical examples are discussed and useful problems are explored. This updated second edition includes new homework problems and revises the scripts in the book, available functions, and m-files to MATLAB® V7.

**MATLAB Guide to Finite Elements** - Peter I. Kattan 2013-04-17

This book explores numerical implementation of Finite Element Analysis using MATLAB. Stressing interactive use of MATLAB, it provides examples and exercises from mechanical, civil and aerospace engineering as well as materials science. The text includes a short MATLAB tutorial. An extensive solutions manual offers detailed solutions to all problems in the book for classroom use. The second edition includes a new brick (solid) element with eight nodes and a one-dimensional fluid flow element. Also added

is a review of applications of finite elements in fluid flow, heat transfer, structural dynamics and electro-magnetics. The accompanying CD-ROM presents more than fifty MATLAB functions.

**Getting Started with MATLAB 7** - Rudra Pratap 2006

MATLAB is one of the most widely used tools in the field of engineering today. Its broad appeal lies in its interactive environment with hundreds of built-in functions. This book is designed to get you up and running in just a few hours.

Engineering and Scientific Computations Using MATLAB - Sergey E. Lyshevski 2005-02-04

Master MATLAB(r) step-by-step The MATLAB--"MATrix LABoratory"--computational environment offers a rich set of capabilities to efficiently solve a variety of complex analysis, simulation, and optimization problems. Flexible, powerful, and relatively easy to use, the MATLAB environment has become a standard cost-effective tool within the engineering, science, and technology communities. Excellent

as a self-teaching guide for professionals as well as a textbook for students, Engineering and Scientific Computations Using MATLAB helps you fully understand the MATLAB environment, build your skills, and apply its features to a wide range of applications. Going beyond traditional MATLAB user manuals and college texts, Engineering and Scientific Computations Using MATLAB guides you through the most important aspects and basics of MATLAB programming and problem-solving from fundamentals to practice. Augmenting its discussion with a wealth of practical worked-out examples and qualitative illustrations, this book demonstrates MATLAB's capabilities and offers step-by-step instructions on how to apply the theory to a practical real-world problem. In particular, the book features: \* Coverage of a variety of complex physical and engineering systems described by nonlinear differential equations \* Detailed application of MATLAB to electromechanical systems MATLAB files,

scripts, and statements, as well as SIMULINK models which can be easily modified for application-specific problems encountered in practice Readable, user-friendly, and comprehensive in scope this is a welcome introduction to MATLAB for those new to the program and an ideal companion for engineers seeking in-depth mastery of the high-performance MATLAB environment.

**Practical Guide to MIMO Radio Channel -**  
Tim Brown 2012-02-16

This book provides an excellent reference to the MIMO radio channel In this book, the authors introduce the concept of the Multiple Input Multiple Output (MIMO) radio channel, which is an intelligent communication method based upon using multiple antennas. Moreover, the authors provide a summary of the current channel modeling approaches used by industry, academia, and standardisation bodies. Furthermore, the book is structured to allow the reader to easily progress through the chapters in

order to gain an understanding of the fundamental and mathematical principles behind MIMO. It also provides examples (i.e. Kroenecker model, Weicheselberger model, geometric and deterministic models, and ray tracing), system scenarios, trade-offs, and visual explanations. The authors explain and demonstrate the use and application of these models at system level. Key Features: Provides a summary of the current channel modeling approaches used by industry, academia and standardisation bodies Contains experimental and measurement based results Provides a comprehensive down to earth approach with concise and visual explanations of MIMO Radio Channel Covers a variety of system scenarios and explains the trade-offs involved in each Accompanying website containing MATLAB code and solutions to related problems <http://www.tim.brown76.name/MIMObok>) Practical Guide to the MIMO Radio Channel with MATLAB examples is an invaluable reference for

R&D engineers and professionals in industry requiring familiarisation with the concept, and engineers entering the field or working in related fields seeking an introduction to the topic. Postgraduate and graduate students will also find this book of interest.

MATLAB Neural Network Toolbox: User's Guide  
- Howard B. Demuth 1992

**Getting Started with MATLAB 5** - Pratap Rudra 1999

**A Guide to MATLAB** - Brian R. Hunt  
2006-06-08

This is a short, focused introduction to MATLAB, a comprehensive software system for mathematical and technical computing. It contains concise explanations of essential MATLAB commands, as well as easily understood instructions for using MATLAB's programming features, graphical capabilities, simulation models, and rich desktop interface.

Written for MATLAB 7, it can also be used with earlier (and later) versions of MATLAB. This book teaches how to graph functions, solve equations, manipulate images, and much more. It contains explicit instructions for using MATLAB's companion software, Simulink, which allows graphical models to be built for dynamical systems. MATLAB's new "publish" feature is discussed, which allows mathematical computations to be combined with text and graphics, to produce polished, integrated, interactive documents. For the beginner it explains everything needed to start using MATLAB, while experienced users making the switch to MATLAB 7 from an earlier version will also find much useful information here.

[GNU Octave](#) - Jesper Schmidt Hansen  
2011-06-21

Today, scientific computing and data analysis play an integral part in most scientific disciplines ranging from mathematics and biology to imaging processing and finance. With

GNU Octave you have a highly flexible tool that can solve a vast number of such different problems as complex statistical analysis and dynamical system studies. The GNU Octave Beginner's Guide gives you an introduction that enables you to solve and analyze complicated numerical problems. The book is based on numerous concrete examples and at the end of each chapter you will find exercises to test your knowledge. It's easy to learn GNU Octave, with the GNU Octave Beginner's Guide to hand. Using real-world examples the GNU Octave Beginner's Guide will take you through the most important aspects of GNU Octave. This practical guide takes you from the basics where you are introduced to the interpreter to a more advanced level where you will learn how to build your own specialized and highly optimized GNU Octave toolbox package. The book starts by introducing you to work variables like vectors and matrices, demonstrating how to perform simple arithmetic operations on these objects before explaining

how to use some of the simple functionality that comes with GNU Octave, including plotting. It then goes on to show you how to write new functionality into GNU Octave and how to make a toolbox package to solve your specific problem. Finally, it demonstrates how to optimize your code and link GNU Octave with C and C++ code enabling you to solve even the most computationally demanding tasks. After reading GNU Octave Beginner's Guide you will be able to use and tailor GNU Octave to solve most numerical problems and perform complicated data analysis with ease.

**High-level Synthesis** - Michael Fingeroff 2010  
Are you an RTL or system designer that is currently using, moving, or planning to move to an HLS design environment? Finally, a comprehensive guide for designing hardware using C++ is here. Michael Fingeroff's High-Level Synthesis Blue Book presents the most effective C++ synthesis coding style for achieving high quality RTL. Master a totally new

design methodology for coding increasingly complex designs! This book provides a step-by-step approach to using C++ as a hardware design language, including an introduction to the basics of HLS using concepts familiar to RTL designers. Each chapter provides easy-to-understand C++ examples, along with hardware and timing diagrams where appropriate. The book progresses from simple concepts such as sequential logic design to more complicated topics such as memory architecture and hierarchical sub-system design. Later chapters bring together many of the earlier HLS design concepts through their application in simplified design examples. These examples illustrate the fundamental principles behind C++ hardware design, which will translate to much larger designs. Although this book focuses primarily on C and C++ to present the basics of C++ synthesis, all of the concepts are equally applicable to SystemC when describing the core algorithmic part of a design. On completion of

this book, readers should be well on their way to becoming experts in high-level synthesis.

**Interpretable Machine Learning** - Christoph Molnar 2020

This book is about making machine learning models and their decisions interpretable. After exploring the concepts of interpretability, you will learn about simple, interpretable models such as decision trees, decision rules and linear regression. Later chapters focus on general model-agnostic methods for interpreting black box models like feature importance and accumulated local effects and explaining individual predictions with Shapley values and LIME. All interpretation methods are explained in depth and discussed critically. How do they work under the hood? What are their strengths and weaknesses? How can their outputs be interpreted? This book will enable you to select and correctly apply the interpretation method that is most suitable for your machine learning project.

**MATLAB** - 2001

**Advances in Control Education 2003 (ACE 2003)** - Juha Lindfors 2004-02-04

Advances in Control Education 2003 - the 6th IFAC Symposium on Advances in Control Education was an international forum for scientists and practitioners involved in the field of control education to present their latest research, results and ideas. The symposium also aimed to disseminate knowledge and experience in alternative methods and approaches in education. In addition to three plenary lectures and the technical visit, the symposium included 12 regular sessions and panel discussion session on the topic "web- with or without". Technical sessions concentrated on new software tools in control education especially on the role of interaction in Control Engineering education, web-based systems and remote laboratories and on laboratory experiments. Presents and illustrates new approaches to the effective

utilisation of new software tools in control engineering education Identifies the important role remote laboratories play in the development of control education

*An Introduction to Reservoir Simulation Using MATLAB/GNU Octave* - Knut-Andreas Lie  
2019-06-30

This book provides a self-contained introduction to the simulation of flow and transport in porous media, written by a developer of numerical methods. The reader will learn how to implement reservoir simulation models and computational algorithms in a robust and efficient manner. The book contains a large number of numerical examples, all fully equipped with online code and data, allowing the reader to reproduce results, and use them as a starting point for their own work. All of the examples in the book are based on the MATLAB Reservoir Simulation Toolbox (MRST), an open-source toolbox popular popularity in both academic institutions and the petroleum

industry. The book can also be seen as a user guide to the MRST software. It will prove invaluable for researchers, professionals and advanced students using reservoir simulation methods. This title is also available as Open Access on Cambridge Core.

Graphics and GUIs with MATLAB - Patrick Marchand 1999-04-23

This second edition provides illustrative example sets to simplify the process of learning and mastering the powerful, flexible, and easy-to-use MATLAB graphics environment. It shows how to maximize the high performance and open-environment capabilities for generating, displaying, and analyzing numerical data as well as how to quickly create interesting and beautiful graphics. The book covers plotting, color, animation, the new z buffer algorithm, new functions for generating graphics for presentations, and GUI programming techniques. Designed as both an introduction as well as an advanced learning tool, the book uses

step-by-step tutorials with a level of detail, explanation, and instruction that allows readers

to discover the full potential of the MATLAB graphics programming capability.