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LIA DILLON

[Machine Learning for Computer Vision](#) Springer Nature

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.

[Machine Learning for Algorithmic Trading](#) Apress

With the proliferation of digital audio distribution over digital media, audio content analysis is fast becoming a requirement for designers of intelligent signal-adaptive audio processing systems. Written by a well-known expert in the field, this book provides quick access to different analysis algorithms and allows comparison between different approaches to the same task, making it useful for newcomers to audio signal processing and industry experts alike. A review of relevant fundamentals in audio signal processing, psychoacoustics, and music theory, as well as downloadable MATLAB files are also included. Please visit the companion website: www.AudioContentAnalysis.org

[Numerical Methods in Geotechnical Engineering](#) CRC Press

* A learner-friendly, practical and example driven book, *Wireless Communication Systems in Matlab* gives you a solid background in building simulation models for wireless systems in Matlab. This book, an essential guide for understanding the basic implementation aspects of a wireless system, shows how to simulate and model such a system from scratch. The implemented simulation models shown in this book, provide an opportunity for an engineer to understand the basic implementation aspects of modeling various building blocks of a wireless communication system. It presents the following key topics with the required theoretical background, along with the implementation details in the form of Matlab scripts. * Random variables for simulating probabilistic systems and applications like Jakes filter design and colored noise generation. * Models for Shannon's channel capacity, unconstrained awgn channel, binary symmetric channel (BSC), binary erasure channel (BEC), constellation constrained capacities and ergodic capacity over fading channel. The theory of linear block codes, decoding techniques using soft-decisions and hard-decisions, and their performance simulations. * Monte Carlo simulation for ascertaining performance of digital modulation techniques in AWGN and fading channels - Eb/NO Vs BER curves. Pulse shaping techniques, matched filtering and partial response signaling, Design and implementation of linear equalizers - zero forcing and MMSE equalizers, using them in a communication link and modulation systems with receiver impairments. * Large-scale propagation models like Friis free space model, log distance model, two ray ground reflection model, single knife-edge diffraction model, Hata Okumura model. * Essentials of small-scale propagation models for wireless channels, such as, power delay profile, Doppler power spectrum, Rayleigh and Rice processes. Modeling flat fading and frequency selective channels. * Diversity techniques for multiple antenna systems: Alamouti space-time coding, maximum ratio combining, equal gain combining and selection combining. * Simulation models for direct sequence spread spectrum, frequency hopping spread spectrum and OFDM.

[Handbook of Vascular Biometrics](#) Springer

UP-TO-DATE, TECHNICALLY ACCURATE COVERAGE OF ESSENTIAL TOPICS IN IMAGE AND VIDEO

PROCESSING This is the first book to combine image and video processing with a practical MATLAB®-oriented approach in order to demonstrate the most important image and video techniques and algorithms. Utilizing minimal math, the contents are presented in a clear, objective manner, emphasizing and encouraging experimentation. The book has been organized into two parts. Part I: Image Processing begins with an overview of the field, then introduces the fundamental concepts, notation, and terminology associated with image representation and basic image processing operations. Next, it discusses MATLAB® and its Image Processing Toolbox with the start of a series of chapters with hands-on activities and step-by-step tutorials. These chapters cover image acquisition and digitization; arithmetic, logic, and geometric operations; point-based, histogram-based, and neighborhood-based image enhancement techniques; the Fourier Transform and relevant frequency-domain image filtering techniques; image restoration; mathematical morphology; edge detection techniques; image segmentation; image compression and coding; and feature extraction and representation. Part II: Video Processing presents the main concepts and terminology associated with analog video signals and systems, as well as digital video formats and standards. It then describes the technically involved problem of standards conversion, discusses motion estimation and compensation techniques, shows how video sequences can be filtered, and concludes with an example of a solution to object detection and tracking in video sequences using MATLAB®. Extra features of this book include: More than 30 MATLAB® tutorials, which consist of step-by-step guides to exploring image and video processing techniques using MATLAB®. Chapters supported by figures, examples, illustrative problems, and exercises Useful websites and an extensive list of bibliographical references This accessible text is ideal for upper-level undergraduate and graduate students in digital image and video processing courses, as well as for engineers, researchers, software developers, practitioners, and anyone who wishes to learn about these increasingly popular topics on their own.

[Getting Started with MATLAB 7](#) Oxford University Press, USA

This book intend to supply readers with some MATLAB codes for finite element analysis of solids and structures. After a short introduction to MATLAB, the book illustrates the finite element implementation of some problems by simple scripts and functions. The following problems are discussed: • Discrete systems, such as springs and bars • Beams and frames in bending in 2D and 3D • Plane stress problems • Plates in bending • Free vibration of Timoshenko beams and Mindlin plates, including laminated composites • Buckling of Timoshenko beams and Mindlin plates The book does not intends to give a deep insight into the finite element details, just the basic equations so that the user can modify the codes. The book was prepared for undergraduate science and engineering students, although it may be useful for graduate students.

The MATLAB codes of this book are included in the disk. Readers are welcomed to use them freely. The author does not guarantee that the codes are error-free, although a major effort was taken to verify all of them. Users should use MATLAB 7.0 or greater when running these codes. Any suggestions or corrections are welcomed by an email to ferreira@fe.up.pt.

[Machine and Deep Learning Using MATLAB](#) Cambridge University Press

A basic problem in computer vision is to understand the structure of a real world scene given several images of it. Techniques for solving this problem are taken from projective geometry and photogrammetry. Here, the authors cover the geometric principles and their algebraic representation in terms of camera projection matrices, the fundamental matrix and the trifocal tensor. The theory and methods of computation of these entities are discussed with real examples, as is their use in the reconstruction of scenes from multiple images. The new edition features an extended introduction covering the key ideas in the book (which itself has been updated with additional examples and appendices) and significant new results which have appeared since the first edition. Comprehensive background material is provided, so readers familiar with linear algebra and

basic numerical methods can understand the projective geometry and estimation algorithms presented, and implement the algorithms directly from the book.

Practical Machine Learning with Rust John Wiley & Sons

Mathematics of Computing -- Numerical Analysis.

[An Introduction to Reservoir Simulation Using MATLAB/GNU Octave](#) CRC Press

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 -- Provided by publisher.

Getting Started with MATLAB CRC Press

Highlighting the new aspects of MATLAB 7.10 and expanding on many existing features, this eighth edition continues to offer a hands-on, step-by-step introduction to using the powerful tools of MATLAB. It includes a new chapter on object-oriented programming, a new discussion of the MATLAB File Exchange window, major changes to the MATLAB Editor, and an explanation of more powerful Help tools. It also presents a synopsis of the most frequently used functions, operators, and special characters-providing quick and easy access to frequently used information. M-files and MEX-files for large examples are available at www.crcpress.com

Programming for Computations - MATLAB/Octave John Wiley & Sons

Describes in detail the fundamental mathematics and algorithms of machine learning (an example of artificial intelligence) and signal processing, two of the most important and exciting technologies in the modern information economy. Builds up concepts gradually so that the ideas and algorithms can be implemented in practical software applications.

MATLAB Codes for Finite Element Analysis John Wiley & Sons

Numerical Methods in Geotechnical Engineering contains 153 scientific papers presented at the 7th European Conference on Numerical Methods in Geotechnical Engineering, NUMGE 2010, held at Norwegian University of Science and Technology (NTNU) in Trondheim, Norway, 2-4 June 2010. The contributions cover topics from emerging research to engineering practice.

Matlab - Modelling, Programming and Simulations Cambridge University Press

This paperback is a color edition. Link to the black & white edition: <https://www.amazon.com/gp/product/B000000000>

Digital Modulations using Matlab is a learner-friendly, practical and example driven book, that gives you a solid background in building simulation models for digital modulation systems in Matlab. This book, an essential guide for understanding the implementation aspects of a digital modulation system, shows how to simulate and model a digital modulation system from scratch. The implemented simulation models shown in this book, mostly will not use any of the inbuilt communication toolbox functions and hence provide an opportunity for an engineer to understand the basic implementation aspects of modeling various building blocks of a digital modulation system. It presents the following key topics with required theoretical background along with the implementation details in the form of Matlab scripts. * Basics of signal processing essential for implementing digital modulation techniques - generation of test signals, interpreting FFT results, power and energy of a signal, methods to compute convolution, analytic signal and applications. * Waveform and complex equivalent baseband simulation models. * Digital modulation techniques covered: BPSK and its variants, QPSK and its variants, M-ary PSK, M-ary QAM, M-ary PAM, CPM, MSK, GMSK, M-ary FSK. * Monte Carlo simulation for ascertaining performance of digital modulation techniques in AWGN and fading channels - Eb/N0 Vs BER curves. * Design and implementation of linear equalizers - zero forcing and MMSE equalizers, using them in a communication link. * Simulation and performance of modulation systems with receiver impairments.

A Guide to MATLAB Springer

This book is a short, focused introduction to MATLAB and should be useful to both beginning and experienced users.

An Introduction to Audio Content Analysis John Wiley & Sons

This book is a comprehensive guide to machine learning with worked examples in MATLAB. It starts with an overview of the history of Artificial Intelligence and automatic control and how the field of machine learning grew from these. It provides descriptions of all major areas in machine learning. The book reviews commercially available packages for machine learning and shows how they fit into the field. The book then shows how MATLAB can be used to solve machine learning problems and how MATLAB graphics can enhance the programmer's understanding of the results and help users of their software grasp the results. Machine Learning can be very mathematical. The mathematics for each area is introduced in a clear and concise form so that even casual readers can understand the math. Readers from all areas of engineering will see connections to what they know and will learn new technology. The book then provides complete solutions in MATLAB for several important problems in machine learning including face identification, autonomous driving, and data classification. Full source code is provided for all of the examples and applications in the book. What you'll learn: An overview of the field of machine learning Commercial and open source packages in MATLAB How to use MATLAB for programming and building machine learning applications MATLAB graphics for machine learning Practical real world examples in MATLAB for major applications of machine learning in big data Who is this book for: The primary audiences are engineers and engineering students wanting a comprehensive and practical introduction to machine learning.

Multiple View Geometry in Computer Vision Academic Press

A unified methodology for categorizing various complex objects is presented in this book. Through probability theory, novel asymptotically minimax criteria suitable for practical applications in imaging and data analysis are examined including the special cases such as the Jensen-Shannon divergence and the probabilistic neural network. An optimal approximate nearest neighbor search algorithm, which allows faster classification of databases is featured. Rough set theory, sequential analysis and granular computing are used to improve performance of the hierarchical classifiers. Practical examples in face identification (including deep neural networks), isolated commands recognition in voice control system and classification of visemes captured by the Kinect depth camera are included. This approach creates fast and accurate search procedures by using exact probability densities of applied dissimilarity measures. This book can be used as a guide for independent study and as supplementary material for a technically oriented graduate course in

intelligent systems and data mining. Students and researchers interested in the theoretical and practical aspects of intelligent classification systems will find answers to: - Why conventional implementation of the naive Bayesian approach does not work well in image classification? - How to deal with insufficient performance of hierarchical classification systems? - Is it possible to prevent an exhaustive search of the nearest neighbor in a database?

Wireless Communication Systems in Matlab A B M Nasiruzzaman

Information theory and inference, taught together in this exciting textbook, lie at the heart of many important areas of modern technology - communication, signal processing, data mining, machine learning, pattern recognition, computational neuroscience, bioinformatics and cryptography. The book introduces theory in tandem with applications. Information theory is taught alongside practical communication systems such as arithmetic coding for data compression and sparse-graph codes for error-correction. Inference techniques, including message-passing algorithms, Monte Carlo methods and variational approximations, are developed alongside applications to clustering, convolutional codes, independent component analysis, and neural networks. Uniquely, the book covers state-of-the-art error-correcting codes, including low-density-parity-check codes, turbo codes, and digital fountain codes - the twenty-first-century standards for satellite communications, disk drives, and data broadcast. Richly illustrated, filled with worked examples and over 400 exercises, some with detailed solutions, the book is ideal for self-learning, and for undergraduate or graduate courses. It also provides an unparalleled entry point for professionals in areas as diverse as computational biology, financial engineering and machine learning.

Computer Vision Applications Cambridge University Press

Quickly Engages in Applying Algorithmic Techniques to Solve Practical Signal Processing Problems

With its active, hands-on learning approach, this text enables readers to master the underlying principles of digital signal processing and its many applications in industries such as digital television, mobile and broadband communications, and medical/scientific devices. Carefully developed MATLAB® examples throughout the text illustrate the mathematical concepts and use of digital signal processing algorithms. Readers will develop a deeper understanding of how to apply the algorithms by manipulating the codes in the examples to see their effect. Moreover, plenty of exercises help to put knowledge into practice solving real-world signal processing challenges.

Following an introductory chapter, the text explores: Sampled signals and digital processing Random signals Representing signals and systems Temporal and spatial signal processing Frequency analysis of signals Discrete-time filters and recursive filters Each chapter begins with chapter objectives and an introduction. A summary at the end of each chapter ensures that one has mastered all the key concepts and techniques before progressing in the text. Lastly, appendices listing selected web resources, research papers, and related textbooks enable the investigation of individual topics in greater depth. Upon completion of this text, readers will understand how to apply key algorithmic techniques to address practical signal processing problems as well as develop their own signal processing algorithms. Moreover, the text provides a solid foundation for evaluating and applying new digital processing signal techniques as they are developed.

Interpretable Machine Learning Cambridge University Press

A hands-on roadmap to using Python for artificial intelligence programming In Practical Artificial Intelligence Programming with Python: From Zero to Hero, veteran educator and photophysicist Dr. Perry Xiao delivers a thorough introduction to one of the most exciting areas of computer science in modern history. The book demystifies artificial intelligence and teaches readers its fundamentals from scratch in simple and plain language and with illustrative code examples. Divided into three parts, the author explains artificial intelligence generally, machine learning, and deep learning. It tackles a wide variety of useful topics, from classification and regression in machine learning to generative adversarial networks. He also includes: Fulsome introductions to MATLAB, Python, AI, machine learning, and deep learning Expansive discussions on supervised and unsupervised machine learning, as well as semi-supervised learning Practical AI and Python "cheat sheet" quick references This hands-on AI programming guide is perfect for anyone with a basic knowledge of programming—including familiarity with variables, arrays, loops, if-else statements, and file input and output—who seeks to understand foundational concepts in AI and AI development.

Machine Learning for Signal Processing Springer

MACHINE AND DEEP LEARNING In-depth resource covering machine and deep learning methods using MATLAB tools and algorithms, providing insights and algorithmic decision-making processes Machine and Deep Learning Using MATLAB introduces early career professionals to the power of MATLAB to explore machine and deep learning applications by explaining the relevant MATLAB tool or app and how it is used for a given method or a collection of methods. Its properties, in terms of input and output arguments, are explained, the limitations or applicability is indicated via an accompanied text or a table, and a complete running example is shown with all needed MATLAB command prompt code. The text also presents the results, in the form of figures or tables, in parallel with the given MATLAB code, and the MATLAB written code can be later used as a template for trying to solve new cases or datasets. Throughout, the text features worked examples in each chapter for self-study with an accompanying website providing solutions and coding samples. Highlighted notes draw the attention of the user to critical points or issues. Readers will also find information on: Numeric data acquisition and analysis in the form of applying computational algorithms to predict the numeric data patterns (clustering or unsupervised learning) Relationships between predictors and response variable (supervised), categorically sub-divided into classification (discrete response) and regression (continuous response) Image acquisition and analysis in the form of applying one of neural networks, and estimating net accuracy, net loss, and/or RMSE for the successive training, validation, and testing steps Retraining and creation for image labeling, object identification, regression classification, and text recognition Machine and Deep Learning Using MATLAB is a useful and highly comprehensive resource on the subject for professionals, advanced students, and researchers who have some familiarity with MATLAB and are situated in engineering and scientific fields, who wish to gain mastery over the software and its numerous applications.

MATLAB Machine Learning CreateSpace

A modern treatment focusing on learning and inference, with minimal prerequisites, real-world examples and implementable algorithms.

Best Sellers - Books :

- [The Democrat Party Hates America](#)
- [The Mountain Is You: Transforming Self-sabotage Into Self-mastery](#)
- [The Boy, The Mole, The Fox And The Horse](#)
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- [I Love You To The Moon And Back](#)
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- [Oh, The Places You'll Go!](#)
- [Iron Flame \(the Empyrean, 2\)](#)
- [Bluey And Bingo's Fancy Restaurant Cookbook: Yummy Recipes, For Real Life By Penguin Young Readers Licenses](#)