#### Electric Power Transmission And Distribution P J Freeman

Foundations of CodingIntroduction to Stochastic NetworksAsymptotic Analysis of Random Walks: Light-Tailed DistributionsStochastic Structural OptimizationCryptographyAn Introduction to the Theory of Point ProcessesStochastic Global OptimizationPrior Processes and Their ApplicationsAutomata, Languages, and ProgrammingStatistics and Analysis of Scientific DataGeotechnical Predictions and Practice in Dealing with GeohazardsIntroduction to Bayesian Tracking and Particle FiltersBayesian and High-Dimensional Global OptimizationNonlinear Dynamics and Statistical Theories for Basic Geophysical FlowsAdvances in Knowledge Discovery and Data MiningBranching ProcessesLearning to Rank for Information Retrieval and Natural Language ProcessingA First Course in Bayesian Statistical MethodsFrom Cells to SocietiesStochastic ProcessesWeb Technologies and ApplicationsStatistics in MusicologyLight Scattering Reviews 3The Ashgate Companion to Contemporary Philosophy of PhysicsOpen Quantum Systems in Biology, Cognitive and Social SciencesBiomolecular Simulations Methods and ProtocolsChemical Reactivity in Quantum Mechanics and Information TheoryNeural Codes and Distributed RepresentationsRandom Walk, Brownian Motion, and MartingalesNatural Language Processing and Chinese ComputingStochastic PDEs and DynamicsGeneral Technical Report RM.Terrestrial Cryptogams of Pinyon-juniper Woodlands in the Southwestern United StatesOrder and Fluctuations in Collective Dynamics of Swimming BacteriaLearning to Rank for Information Retrieval and Natural Language Processing, Second EditionResolving Strong Field Dynamics in Cation States of CO\_2 via Optimised Molecular AlignmentCryptographyHybrid Solutions for the Modelling of Complex Environmental SystemsInformation, Physics, and ComputationNoise Theory and Application to Physics Jean-Guillaume Dumas Richard Serfozo A. A. Borovkov Makoto Yamakawa Douglas Robert Stinson D.J. Daley Anatoly Zhigljavsky Eswar G. Phadia Javier Esparza Massimiliano Bonamente Jian Chu Lawrence D. Stone Anatoly Zhigljavsky Andrew Majda Takashi Washio Patsy Haccou Hang Li Peter D. Hoff Alexander S. Mikhailov Toshio Nakagawa Feifei Li Jan Beran Alexander A. Kokhanovsky Dean Rickles Andrei Y. Khrennikov Mr. Rohit Manglik Roman F Nalewajski L. F. Abbott Rabi Bhattacharya Xiaodan Zhu Boling Guo Juanita A. R. Ladyman Daiki Nishiguchi Hang Li Malte Oppermann Douglas R. Stinson Christian E. Vincenot Marc Mézard Philippe Réfrégier

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Woodlands in the Southwestern United States Order and Fluctuations in Collective Dynamics of Swimming Bacteria Learning to Rank for Information Retrieval and Natural Language Processing, Second Edition Resolving Strong Field Dynamics in Cation States of CO\_2 via Optimised Molecular Alignment Cryptography Hybrid Solutions for the Modelling of Complex Environmental Systems Information, Physics, and Computation Noise Theory and Application to Physics Jean-Guillaume Dumas Richard Serfozo A. A. Borovkov Makoto Yamakawa Douglas Robert Stinson D.J. Daley Anatoly Zhigljavsky Eswar G. Phadia Javier Esparza Massimiliano Bonamente Jian Chu Lawrence D. Stone Anatoly Zhigljavsky Andrew Majda Takashi Washio Patsy Haccou Hang Li Peter D. Hoff Alexander S. Mikhailov Toshio Nakagawa Feifei Li Jan Beran Alexander A. Kokhanovsky Dean Rickles Andrei Y. Khrennikov Mr. Rohit Manglik Roman F Nalewajski L. F. Abbott Rabi Bhattacharya Xiaodan Zhu Boling Guo Juanita A. R. Ladyman Daiki Nishiguchi Hang Li Malte Oppermann Douglas R. Stinson Christian E. Vincenot Marc Mézard Philippe Réfrégier

offers a comprehensive introduction to the fundamental structures and applications of a wide range of contemporary codingoperations this book offers a comprehensive introduction to the fundamentalstructures and applications of a wide range of contemporary codingoperations this text focuses on the ways to structure informationso that its transmission will be in the safest quickest and mostefficient and error free manner possible all coding operations arecovered in a single framework with initial chapters addressingearly mathematical models and algorithmic developments which led to the structure of code after discussing the general foundations ofcode chapters proceed to cover individual topics such as notionsof compression cryptography detection and correction codes bothclassical coding theories and the most cutting edge models areaddressed along with helpful exercises of varying complexities toenhance comprehension explains how to structure coding information so that itstransmission is safe error free efficient and fast includes a pseudo code that readers may implement in theirpreferential programming language features descriptive diagrams and illustrations and almost 150 exercises with corrections of varying complexity to enhancecomprehension foundations of coding compression encryption error correction is an invaluable resource for understanding the various ways information is structured for its secure andreliable transmission in the 21st century world

in a stochastic network such as those in computer telecommunications and manufacturing discrete units move among a network of stations where they are processed or served randomness may occur in the servicing and routing of units and there may be queueing for services this book describes several basic stochastic network processes beginning with jackson networks and ending with spatial queueing systems in which units such as cellular phones move in a space or region where they are served the focus is on network processes that have tractable closed form expressions for the equilibrium probability distribution of the numbers of units at the stations these distributions yield network performance parameters such as expectations of throughputs delays costs and travel times the book is intended for graduate students and researchers in engineering science and mathematics interested in the basics of stochastic networks that have been developed over the last twenty years assuming a graduate course in stochastic processes without measure theory the emphasis is on multi dimensional markov processes there is also some self contained material on point processes involving real analysis the book also contains rather complete introductions to reversible markov processes palm probabilities for stationary systems little laws for queueing systems and space time poisson processes this material is used in describing reversible networks waiting times at stations travel times and space time flows in networks richard serfozo received the ph d degree in industrial engineering and management sciences at northwestern university in 1969 and is currently professor of industrial and systems engineering at georgia institute of technology prior to that he held positions in the boeing company syracuse

#### university and bell laboratories he has held

a systematic modern treatise on large deviation theory for random walks with light tails from one of its key creators

stochastic structural optimization presents a comprehensive picture of robust design optimization of structures focused on nonparametric stochastic based methodologies good practical structural design accounts for uncertainty for which reliability based design offers a standard approach usually incorporating assumptions on probability functions which are often unknown by comparison a worst case approach with bounded support used as a robust design offers simplicity and a lower level of sensitivity linking structural optimization with these two approaches by a unified framework of non parametric stochastic methodologies provides a rigorous theoretical background and high level of practicality this text shows how to use this theoretical framework in civil and mechanical engineering practice to design a safe structure which accounts for uncertainty connects theory with practice in the robust design optimization of structures advanced enough to support sound practical designs this book provides comprehensive coverage for engineers and graduate students in civil and mechanical engineering makoto yamakawa is a professor at tokyo university of science and a member of the advisory board of the 2020 asian congress of structural and multidisciplinary optimization makoto ohsaki is a professor at kyoto university japan treasurer of the international association for shell spatial structures and former president of the asian society for structural and multidisciplinary optimization

through three editions cryptography theory and practice has been embraced by instructors and students alike it offers a comprehensive primer for the subject s fundamentals while presenting the most current advances in cryptography the authors offer comprehensive in depth treatment of the methods and protocols that are vital to safeguarding the seemingly infinite and increasing amount of information circulating around the world key features of the fourth edition new chapter on the exciting emerging new area of post quantum cryptography chapter 9 new high level nontechnical overview of the goals and tools of cryptography chapter 1 new mathematical appendix that summarizes definitions and main results on number theory and algebra appendix a an expanded treatment of stream ciphers including common design techniques along with coverage of trivium interesting attacks on cryptosystems including padding oracle attack correlation attacks and algebraic attacks on stream ciphers attack on the dual ec random bit generator that makes use of a trapdoor a treatment of the sponge construction for hash functions and its use in the new sha 3 hash standard methods of key distribution in sensor networks the basics of visual cryptography allowing a secure method to split a secret visual message into pieces shares that can later be combined to reconstruct the secret the fundamental techniques cryptocurrencies as used in bitcoin and blockchain the basics of the new methods employed in messaging protocols such as signal including deniability and diffie hellman key ratcheting

this is the second volume of the reworked second edition of a key work on point process theory fully revised and updated by the authors who have reworked their 1988 first edition it brings together the basic theory of random measures and point processes in a unified setting and continues with the more theoretical topics of the first edition limit theorems ergodic theory palm theory and evolutionary behaviour via martingales and conditional intensity the very substantial new material in this second volume includes expanded discussions of marked point processes convergence to equilibrium and the structure of spatial point processes

this book aims to cover major methodological and theoretical developments in the eld of stochastic global optimization this eld includes global random search and methods based on

probabilistic assumptions about the objective function we discuss the basic ideas lying behind the main algorithmic schemes formulate the most essential algorithms and outline the ways of their theor ical investigation we try to be mathematically precise and sound but at the same time we do not often delve deep into the mathematical detail referring instead to the corresponding literature we often do not consider the most g eral assumptions preferring instead simplicity of arguments for example we only consider continuous nite dimensional optimization despite the fact that some of the methods can easily be modi ed for discrete or in nite dimensional optimization problems the authors interests and the availability of good surveys on particular topics have in uenced the choice of material in the book for example there are excellent surveys on simulated annealing both on theoretical and plementation aspects of this method and evolutionary algorithms including genetic algorithms we thus devote much less attention to these topics than they merit concentrating instead on the issues which are not that well d umented in literature we also spend more time discussing the most recent ideas which have been proposed in the last few years

this book presents a systematic and comprehensive treatment of various prior processes that have been developed over the past four decades for dealing with bayesian approach to solving selected nonparametric inference problems this revised edition has been substantially expanded to reflect the current interest in this area after an overview of different prior processes it examines the now pre eminent dirichlet process and its variants including hierarchical processes then addresses new processes such as dependent dirichlet local dirichlet time varying and spatial processes all of which exploit the countable mixture representation of the dirichlet process it subsequently discusses various neutral to right type processes including gamma and extended gamma beta and beta stacy processes and then describes the chinese restaurant indian buffet and infinite gamma poisson processes which prove to be very useful in areas such as machine learning information retrieval and featural modeling tailfree and polya tree and their extensions form a separate chapter while the last two chapters present the bayesian solutions to certain estimation problems pertaining to the distribution function and its functional based on complete data as well as right censored data because of the conjugacy property of some of these processes most solutions are presented in closed form however the current interest in modeling and treating large scale and complex data also poses a problem the posterior distribution which is essential to bayesian analysis is invariably not in a closed form making it necessary to resort to simulation accordingly the book also introduces several computational procedures such as the gibbs sampler blocked gibbs sampler and slice sampling highlighting essential steps of algorithms while discussing specific models in addition it features crucial steps of proofs and derivations explains the relationships between different processes and provides further clarifications to promote a deeper understanding lastly it includes a comprehensive list of references equipping readers to explore further on their own

this two volume set of Incs 8572 and Incs 8573 constitutes the refereed proceedings of the 41st international colloquium on automata languages and programming icalp 2014 held in copenhagen denmark in july 2014 the total of 136 revised full papers presented together with 4 invited talks were carefully reviewed and selected from 484 submissions the papers are organized in three tracks focussing on algorithms complexity and games logic semantics automata and theory of programming foundations of networked computation

the revised second edition of this textbook provides the reader with a solid foundation in probability theory and statistics as applied to the physical sciences engineering and related fields it covers a broad range of numerical and analytical methods that are essential for the correct analysis of scientific data including probability theory distribution functions of statistics fits to two dimensional data and parameter estimation monte carlo methods and markov chains features new to this edition include a discussion of statistical techniques employed in business science such as multiple regression analysis of multivariate datasets a new chapter on the various measures of the mean including logarithmic averages new chapters on systematic errors and intrinsic scatter and on the fitting of data with bivariate errors a new case study and additional worked examples mathematical derivations and theoretical background material have been appropriately marked to improve the readability of the text end of chapter summary boxes for easy reference as in the first edition the main pedagogical method is a theory then application approach where emphasis is placed first on a sound understanding of the underlying theory of a topic which becomes the basis for an efficient and practical application of the material the level is appropriate for undergraduates and beginning graduate students and as a reference for the experienced researcher basic calculus is used in some of the derivations and no previous background in probability and statistics is required the book includes many numerical tables of data as well as exercises and examples to aid the readers understanding of the topic

the recent earthquake disasters in japan and a series of other disasters in the world have highlighted again the need for more reliable geotechnical prediction and better methods for geotechnical design and in particular dealing with geohazards this book provides a timely review and summaries of the recent advances in theories analyses and methods for geotechnical predictions and the most up to date practices in geotechnical engineering and particularly in dealing with geohazards a special section on the geotechnical aspects of the recent tohoku earthquake disaster in japan is also presented in this book key features this book is written by a group of internationally renowned researchers and practioners to honour and mark the 40 years contribution of one of the greatest educators researchers and engineers in the world professor hideki ohta to geotechnical engineering professor ohta is presently professor at chou university after his retirement from tokyo institute of technology japan the book provides some first hand information on the 2011 tohuko earthquake disasters in japan the most recent update on the theories and methods for geotechnical analyses and predictions and the latest methods and practices in geotechnical engineering in particular dealing with geotechnical hazard it is a rare occasion for some 30 plus international authorities to write on their best topic that they have been working on for years the book is a must have collection for any libraries and professionals in geotechnical engineering

this book provides a quick but insightful introduction to bayesian tracking and particle filtering for a person who has some background in probability and statistics and wishes to learn the basics of single target tracking it also introduces the reader to multiple target tracking by presenting useful approximate methods that are easy to implement compared to full blown multiple target trackers the book presents the basic concepts of bayesian inference and demonstrates the power of the bayesian method through numerous applications of particle filters to tracking and smoothing problems it emphasizes target motion models that incorporate knowledge about the target s behavior in a natural fashion rather than assumptions made for mathematical convenience the background provided by this book allows a person to quickly become a productive member of a project team using bayesian filtering and to develop new methods and techniques for problems the team may face

accessible to a variety of readers this book is of interest to specialists graduate students and researchers in mathematics optimization computer science operations research management science engineering and other applied areas interested in solving optimization problems basic principles potential and boundaries of applicability of stochastic global optimization techniques are examined in this book a variety of issues that face specialists in global optimization are explored such as multidimensional spaces which are frequently ignored by researchers the importance of precise interpretation of the mathematical results in

assessments of optimization methods is demonstrated through examples of convergence in probability of random search methodological issues concerning construction and applicability of stochastic global optimization methods are discussed including the one step optimal average improvement method based on a statistical model of the objective function a significant portion of this book is devoted to an analysis of high dimensional global optimization problems and the so called curse of dimensionality an examination of the three different classes of high dimensional optimization problems the geometry of high dimensional balls and cubes very slow convergence of global random search algorithms in large dimensional problems and poor uniformity of the uniformly distributed sequences of points are included in this book

the general area of geophysical fluid mechanics is truly interdisciplinary now ideas from statistical physics are being applied in novel ways to inhomogeneous complex systems such as atmospheres and oceans in this book the basic ideas of geophysics probability theory information theory nonlinear dynamics and equilibrium statistical mechanics are introduced and applied to large time selective decay the effect of large scale forcing nonlinear stability fluid flow on a sphere and jupiter s great red spot the book is the first to adopt this approach and it contains many recent ideas and results its audience ranges from graduate students and researchers in both applied mathematics and the geophysical sciences it illustrates the richness of the interplay of mathematical analysis qualitative models and numerical simulations which combine in the emerging area of computational science

this book constitutes the refereed proceedings of the 12th pacific asia conference on knowledge discovery and data mining pakdd 2008 held in osaka japan in may 2008 the 37 revised long papers 40 revised full papers and 36 revised short papers presented together with 1 keynote talk and 4 invited lectures were carefully reviewed and selected from 312 submissions the papers present new ideas original research results and practical development experiences from all kdd related areas including data mining data warehousing machine learning databases statistics knowledge acquisition automatic scientific discovery data visualization causal induction and knowledge based systems

this book covers the mathematical idea of branching processes and tailors it for a biological audience

learning to rank refers to machine learning techniques for training the model in a ranking task learning to rank is useful for many applications in information retrieval natural language processing and data mining intensive studies have been conducted on the problem recently and significant progress has been made this lecture gives an introduction to the area including the fundamental problems existing approaches theories applications and future work the author begins by showing that various ranking problems in information retrieval and natural language processing can be formalized as two basic ranking tasks namely ranking creation or simply ranking and ranking aggregation in ranking creation given a request one wants to generate a ranking list of offerings based on the features derived from the request and the offerings in ranking aggregation given a request as well as a number of ranking lists of offerings one wants to generate a new ranking list of the offerings ranking creation or ranking is the major problem in learning to rank it is usually formalized as a supervised learning task the author gives detailed explanations on learning for ranking creation and ranking aggregation including training and testing evaluation feature creation and major approaches many methods have been proposed for ranking creation the methods can be categorized as the pointwise pairwise and listwise approaches according to the loss functions they employ they can also be categorized according to the techniques they employ such as the svm based boosting svm neural network based approaches the author also introduces some popular

learning to rank methods in details these include prank oc svm ranking svm ir svm gbrank ranknet lambdarank listnet listmle adarank svm map softrank borda count markov chain and cranking the author explains several example applications of learning to rank including web search collaborative filtering definition search keyphrase extraction query dependent summarization and re ranking in machine translation a formulation of learning for ranking creation is given in the statistical learning framework ongoing and future research directions for learning to rank are also discussed table of contents introduction learning for ranking creation learning for ranking aggregation methods of learning to rank applications of learning to rank theory of learning to rank ongoing and future work

a self contained introduction to probability exchangeability and bayes rule provides a theoretical understanding of the applied material numerous examples with r code that can be run as is allow the reader to perform the data analyses themselves the development of monte carlo and markov chain monte carlo methods in the context of data analysis examples provides motivation for these computational methods

this book written by two well known scientists represents an excellent ad dition to the springer series in synergetics in several ways it shows how by rather simple models we can gain remarkable insights into the behavior of complex systems at the same time it demonstrates the progress made in this interdisciplinary field while in the early days of synergetics the self organized coherent action of atoms in the laser a physical device was in the foreground of interest cf my book synergetics an introduction springer berlin heidelberg new york 1977 the coherent action of nerve cells got into the focus of research as is witnessed by the book by p tass in this series p tass phase resetting in medicine and biology springer berlin heidel berg new york 1999 in these books the elements were disturbed by noise now in the present book by mikhailov and calenbuhr the self organized coherent action of otherwise chaotic elements is studied and important as well as surprising results by kaneko mikhailov and others are presented let me mention just another highly interesting problem treated in this book the coherent interaction of tens of thousands of reactions going on in biological cells but other phenomena such as the formation of swarms of fish or the collective behavior of ants are also modelled these are just a few examples of the many fascinating subjects dealt with in this book that relate to many disciplines under unifying aspects

reliability theory is of fundamental importance for engineers and managers involved in the manufacture of high quality products and the design of reliable systems in order to make sense of the theory however and to apply it to real systems an understanding of the basic stochastic processes is indispensable as well as providing readers with useful reliability studies and applications stochastic processes also gives a basic treatment of such stochastic processes as the poisson process the renewal process the markov chain the markov process and the markov renewal process many examples are cited from reliability models to show the reader how to apply stochastic processes such as the cumulative process the wiener process the brownian motion and reliability applications stochastic processes is suitable for use as a reliability textbook by advanced undergraduate and graduate students it is also of interest to researchers engineers and managers who study or practise reliability and maintenance

this Incs double volume Incs 9931 9932 constitutes the refereed proceedings of the 18th asia pacific conference ap2016 held in suzhou china in september 2016 the 79 full papers and presented together with 24 short papers and 17 demo papers were carefully reviewed and selected from 215 submissions the focus of the conference was on following subjects spatio temporal textual and multimedia data management social media data analysis modelling and learning with big data streaming and real time data analysis recommendation system data

quality and privacy query optimization and scalable data processing

traditionally statistics and music are not generally associated with each other however intelligent music software computer digitization and other advanced techniques and technologies have precipitated the need for standard statistical models to answer basic musicological questions statistics in musicology presents an unprecedented intr

this is the 3rd volume of a light scattering reviews series devoted to current knowledge of light scattering problems and both experimental and theoretical research techniques related to their solution this volume covers applications in remote sensing inverse problems and geophysics with a particular focus on terrestrial clouds the influence of clouds on climate is poorly understood the theoretical aspects of this problem constitute the main emphasis of this work

introducing the reader to the very latest developments in the philosophical foundations of physics this book covers advanced material at a level suitable for beginner and intermediate students a detailed overview is provided of the central debates in the philosophy of quantum mechanics statistical mechanics quantum computation and quantum gravity this book enables both philosophers and physicists to engage with the most pressing problems in contemporary philosophy of physics in a fruitful way

this book mathematically analyzes the basic problems of biology decision making and psychology within the framework of the theory of open quantum systems in recent years there has been an explosion of interest in applications of quantum theory in fields beyond physics the main areas include psychology decision making economics finance social science as well as genetics and molecular biology the corresponding models are referred to as quantum like they don t concern any genuine physical processes in the human brain quantum like models reflect the special features of information processing in biological cognitive and social systems which match well with the quantum formalism this formalism gives rise to the quantum probability model qp which differs essentially from kolmogorov s classical probability model qp also serves as the basis for quantum information theory recently qp has been widely applied to the resolution of the basic paradoxes of decision making theory and to modeling experimental data stemming from cognition psychology economics and finance thereby shedding light on probability fallacies and irrational behavior in this book the theory of quantum instruments and the quantum master equation are applied to the modeling of biological and cognitive processes in particular to the stability of complex biological and social systems interacting with their environment an essential part of the book is devoted to the theory of the social laser and the fröhlich condensate

edugorilla publication is a trusted name in the education sector committed to empowering learners with high quality study materials and resources specializing in competitive exams and academic support edugorilla provides comprehensive and well structured content tailored to meet the needs of students across various streams and levels

chemical reactivity in quantum mechanics and information theory introduces a thermodynamic like description of molecular systems and provides an objective treatment of their fragments the book formulates adequate entropic tools for probing in chemical terms and the electronic structure of molecules and rationalizing reactivity principles it covers the information origins of chemical bonds covalent ionic composition trends in molecular stability and reactivity equilibrium polarizations and charge transfer reconstructions of reactive complexes as well as the phase current promotions of molecular substrates in addition the book introduces a precise descriptor of molecular fragments and clarifies mostly intuitive semantics of several chemical concepts readers will find a precise and unbiased description of

chemical reactivity phenomena in donor acceptor systems in terms of quantum states and generalized concepts of information communication theories generates a new basis for understanding the rules governing molecular processes information origins of chemical bonding and its covalent ionic composition provides an objective approach to classical issues in modern reactivity theory offers a unifying information theoretic perspective on electronic states

since its founding in 1989 by terrence sejnowski neural computation has become the leading journal in the field foundations of neural computation collects by topic the most significant papers that have appeared in the journal over the past nine years the present volume focuses on neural codes and representations topics of broad interest to neuroscientists and modelers the topics addressed are how neurons encode information through action potential firing patterns how populations of neurons represent information and how individual neurons use dendritic processing and biophysical properties of synapses to decode spike trains the papers encompass a wide range of levels of investigation from dendrites and neurons to networks and systems

this textbook offers an approachable introduction to stochastic processes that explores the four pillars of random walk branching processes brownian motion and martingales building from simple examples the authors focus on developing context and intuition before formalizing the theory of each topic this inviting approach illuminates the key ideas and computations in the proofs forming an ideal basis for further study consisting of many short chapters the book begins with a comprehensive account of the simple random walk in one dimension from here different paths may be chosen according to interest themes span poisson processes branching processes the kolmogorov chentsov theorem martingales renewal theory and brownian motion special topics follow showcasing a selection of important contemporary applications including mathematical finance optimal stopping ruin theory branching random walk brownian motion and martingales is an ideal introduction to the rigorous study of stochastic processes students and instructors alike will appreciate the accessible example driven approach a single graduate level course in probability is assumed

this two volume set of Inai 12340 and Inai 12341 constitutes the refereed proceedings of the 9th ccf conference on natural language processing and chinese computing nlpcc 2020 held in zhengzhou china in october 2020 the 70 full papers 30 poster papers and 14 workshop papers presented were carefully reviewed and selected from 320 submissions they are organized in the following areas conversational bot qa fundamentals of nlp knowledge base graphs and semantic machine learning for nlp machine translation and multilinguality nlp applications social media and network text mining and trending topics

this book explains mathematical theories of a collection of stochastic partial differential equations and their dynamical behaviors based on probability and stochastic process the authors discuss stochastic integrals ito formula and ornstein uhlenbeck processes and introduce theoretical framework for random attractors with rigorous mathematical deduction the book is an essential reference to mathematicians and physicists in nonlinear science contents preliminaries the stochastic integral and itô formula ou processes and sdes random attractors applications bibliography index

this thesis focuses on experimental studies on collective motion using swimming bacteria as model active matter systems it offers comprehensive reviews of state of the art theories and experiments on collective motion from the viewpoint of nonequilibrium statistical physics the author presents his experimental studies on two major classes of collective motion that had been well studied theoretically firstly swimming filamentous bacteria in a thin fluid layer are shown to exhibit true long range orientational order and anomalously strong giant density fluctuations which are considered universal and landmark signatures of collective motion by many numerical and theoretical works but have never been observed in real systems secondly chaotic bacterial turbulence in a three dimensional dense suspension without any long range order as described in the first half is demonstrated to be capable of achieving antiferromagnetic vortex order by imposing a small number of constraints with appropriate periodicity the experimental results presented significantly advance our fundamental understanding of order and fluctuations in collective motion of motile elements and their future applications

learning to rank refers to machine learning techniques for training a model in a ranking task learning to rank is useful for many applications in information retrieval natural language processing and data mining intensive studies have been conducted on its problems recently and significant progress has been made this lecture gives an introduction to the area including the fundamental problems major approaches theories applications and future work the author begins by showing that various ranking problems in information retrieval and natural language processing can be formalized as two basic ranking tasks namely ranking creation or simply ranking and ranking aggregation in ranking creation given a request one wants to generate a ranking list of offerings based on the features derived from the request and the offerings in ranking aggregation given a request as well as a number of ranking lists of offerings one wants to generate a new ranking list of the offerings ranking creation or ranking is the major problem in learning to rank it is usually formalized as a supervised learning task the author gives detailed explanations on learning for ranking creation and ranking aggregation including training and testing evaluation feature creation and major approaches many methods have been proposed for ranking creation the methods can be categorized as the pointwise pairwise and listwise approaches according to the loss functions they employ they can also be categorized according to the techniques they employ such as the svm based boosting based and neural network based approaches the author also introduces some popular learning to rank methods in details these include prank oc svm mcrank ranking svm ir svm gbrank ranknet listnet listmle adarank svm map softrank lambdarank lambdamart borda count markov chain and cranking the author explains several example applications of learning to rank including web search collaborative filtering definition search keyphrase extraction query dependent summarization and re ranking in machine translation a formulation of learning for ranking creation is given in the statistical learning framework ongoing and future research directions for learning to rank are also discussed table of contents learning to rank learning for ranking creation learning for ranking aggregation methods of learning to rank applications of learning to rank theory of learning to rank ongoing and future work

this thesis presents an experimental study of the ultrafast molecular dynamics of co 2 that are induced by a strong near infrared femtosecond laser pulse in particular typical strong field phenomena such as tunneling ionisation nonsequential double ionisation and photo induced dissociation are investigated and controlled by employing an experimental technique called impulsive molecular alignment here a first laser pulse fixes the molecule in space such that the molecular dynamics can be studied as a function of the molecular geometry with a second laser pulse the experiments are placed within the context of the study and control of ultrafast molecular dynamics where sub femtosecond 10 15 seconds resolution in ever larger molecular systems represents the current frontier of research the thesis presents the required background in strong field and molecular physics femtosecond laser architecture and experimental techniques in a clear and accessible language that does not require any previous knowledge in these fields

the legacy first introduced in 1995 cryptography theory and practice garnered enormous praise and popularity and soon became the standard textbook for cryptography courses around the world the second edition was equally embraced and enjoys status as a perennial bestseller now in its third edition this authoritative text continues to provide a solid foundation for future breakthroughs in cryptography why a third edition the art and science of cryptography has been evolving for thousands of years now with unprecedented amounts of information circling the globe we must be prepared to face new threats and employ new encryption schemes on an ongoing basis this edition updates relevant chapters with the latest advances and includes seven additional chapters covering pseudorandom bit generation in cryptography entity authentication including schemes built from primitives and special purpose zero knowledge schemes key establishment including key distribution and protocols for key agreement both with a greater emphasis on security models and proofs public key infrastructure including identity based cryptography secret sharing schemes multicast security including broadcast encryption and copyright protection the result providing mathematical background in a just in time fashion informal descriptions of cryptosystems along with more precise pseudocode and a host of numerical examples and exercises cryptography theory and practice third edition offers comprehensive in depth treatment of the methods and protocols that are vital to safeguarding the mind boggling amount of information circulating around the world

systems studied in environmental science due to their structure and the heterogeneity of the entities composing them often exhibit complex dynamics that can only be captured by hybrid modeling approaches while several concurrent definitions of hybrid modeling can be found in the literature it is defined here broadly as the approach consisting in coupling existing modelling paradigms to achieve a more accurate or efficient representation of systems the need for hybrid models generally arises from the necessity to overcome the limitation of a single modeling technique in terms of structural flexibility capabilities or computational efficiency this book brings together experts in the field of hybrid modelling to demonstrate how this approach can address the challenge of representing the complexity of natural systems chapters cover applied examples as well as modeling methodology

this book presents a unified approach to a rich and rapidly evolving research domain at the interface between statistical physics theoretical computer science discrete mathematics and coding information theory it is accessible to graduate students and researchers without a specific training in any of these fields the selected topics include spin glasses error correcting codes satisfiability and are central to each field the approach focuses on large random instances and adopts a common probabilistic formulation in terms of graphical models it presents message passing algorithms like belief propagation and survey propagation and their use in decoding and constraint satisfaction solving it also explains analysis techniques like density evolution and the cavity method and uses them to study phase transitions

i had great pleasure in reading philippe refregier s book on the theory of noise and its applications in physics the main aim of the book is to present the basic ideas used to characterize these unwanted random signals that obscure information content to this end the author devotes a sigificant part of his book to a detailed study of the probabilistic foundations of fluctuation theory following a concise and accurate account of the basics of probability the ory the author includes a detailed study of stochastic processes emphasizing the idea of the correlation function which plays a key role in many areas of physics physicists often assume that the noise perturbing a signal is gaussian this hypothesis is justified if one can consider that the noise results from the superposition of a great many independent random perturbations it is this fact that brings the author to discuss the theory underlying the addition of random variables accompanied by a wide range of illustrative examples since noise affects information

the author is naturally led to consider shannon s information theory which in turn brings him to the altogether fundamental idea of entropy this chapter is completed with a study of com plexity according to kolmogorov this idea is not commonly discussed in physics and the reader will certainly appreciate the clear presentation within these pages

Eventually, **Electric Power Transmission And Distribution P J Freeman** will agreed discover a further experience and capability by spending more cash. nevertheless when? get you recognize that you require to acquire those all needs as soon as having significantly cash? Why dont you try to get something basic in the beginning? Thats something that will guide you to understand even more Electric Power Transmission And Distribution P J Freemannot far off from the globe, experience, some places, behind history, amusement, and a lot more? It is your no question Electric Power Transmission And Distribution P J Freemanown grow old to play in reviewing habit. in the course of guides you could enjoy now is **Electric Power Transmission And Distribution P J Freeman** below.

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### Decoding 1.56 Meters: A Comprehensive Guide to Feet Conversion

This article aims to comprehensively explain the conversion of 1.56 meters (m) into feet (ft), addressing the underlying principles and providing practical applications. Many scenarios, from construction and design to everyday measurements, require converting between the metric and imperial systems. Understanding this conversion is crucial for seamless communication and accurate calculations across different contexts. We will explore the conversion process, delve into potential applications, and address frequently asked questions to provide a thorough understanding of the topic.

#### **Understanding the Metric and Imperial Systems**

Before delving into the conversion, it's crucial to understand the fundamental differences between the metric (SI) and imperial systems of measurement. The metric system, based on powers of ten, uses meters for length, kilograms for mass, and liters for volume. Its simplicity and consistency make it widely preferred in scientific and international contexts. The imperial system, on the other hand, uses a more complex and less intuitive system, with feet, pounds, and gallons as common units. Feet, the unit we're focusing on here, is a unit of length. The difference in their structures necessitates a conversion factor when moving between the two.

### **The Conversion Factor: Meters to Feet**

The key to converting 1.56 meters to feet lies in the conversion factor. One meter is approximately equal to 3.28084 feet. This factor is derived from the established relationship between the two systems. Therefore, to convert meters to feet, we simply multiply the number of meters by this conversion factor.

## **Calculating 1.56 Meters in Feet**

To convert 1.56 meters to feet, we perform the following calculation: 1.56 meters 3.28084 feet/meter  $\approx$  5.1181 feet Therefore, 1.56 meters is approximately equal to 5.1181 feet. Depending on the level of precision required, this can be rounded to 5.12 feet or even 5 feet.

## **Practical Applications and Examples**

Understanding the conversion of 1.56 meters to feet has various practical applications: Interior Design: When designing a room, knowing the dimensions in both meters and feet allows for better planning and accurate furniture placement. For example, a 1.56-meter-wide doorway would be approximately 5.12 feet wide, influencing furniture choices. Construction: In construction projects, accurate measurements are paramount. Converting between metric and imperial units ensures that all materials and plans align correctly. A 1.56-meter-long beam would be about 5.12 feet long. Sports: In some sports, like athletics, measurements might be given in both systems. Understanding the conversion is crucial for accurate interpretations. Travel: When traveling internationally, familiarity with both systems aids in understanding distances and sizes. A 1.56-meter-tall person is approximately 5.12 feet tall.

## **Rounding and Precision**

The precision required in the conversion depends on the context. For rough estimations, rounding to one or two decimal places might suffice. However, for precise engineering or scientific applications, using more decimal places is essential to minimize errors. Always consider the acceptable margin of error within the specific application.

## Conclusion

Converting 1.56 meters to feet involves a simple multiplication using the conversion factor of approximately 3.28084. This conversion is crucial for bridging the gap between the metric and imperial systems, enabling accurate measurements and seamless communication across various fields. Understanding the context and required precision helps determine the appropriate level of rounding.

## FAQs

1. What is the exact conversion factor for meters to feet? The exact conversion factor is 3.280839895, but 3.28084 is a commonly used approximation. 2. Can I use online converters for this conversion? Yes, many online converters are readily available for quick and accurate conversions. 3. Why are there different approximations for the conversion factor? Different approximations are used depending on the level of accuracy required. More decimal places offer greater precision. 4. How do I convert feet back to meters? To convert feet back to meters, divide the number of feet by the conversion factor (approximately 3.28084). 5. Is it always necessary to use the conversion factor? While the conversion factor provides the most accurate results, in some cases, rough estimations might suffice, depending on the context.

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