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A Theory of Language and Information General Systems Theory A Mathematical Approach to Mathematics Appreciation Signal Processing Linear Water Waves Managerial Economics Principles of Computer Programming Deep Learning Architectures Quantum Theory A Mathematical Approach to Proportional Representation: Duncan Black on Lewis Carroll The Special Theory of Relativity Islamic Design: A Mathematical Approach Random Processes Elementary Cryptanalysis Modelling in Geography Microeconomic Theory The Interesting Golden Ratio A Mathematical Approach to Biology A Mathematical Approach to Protein Biophysics Einstein's Theory of Special Relativity Linear Algebra Advanced Topics in System and Signal Theory The Mathematical Approach to Physiological Problems Microeconomic Theory A Mathematical Approach Introduction to Quantitative Finance Towards a Mathematical Theory of Complex Biological Systems Towards a system theory of the mind Quantitative Business Valuation Life Size Pro Deep Learning with TensorFlow A Logical Approach to Discrete Math Mathematical Approach to Puzzle Solving Ptolemy's Mathematical Approach [microform] : Applied Mathematics in the Second Century Plant and Crop Modelling Elementary Cryptanalysis What Is Mathematics? Macro-economic Theory Formal Verification of Floating-Point Hardware Design Tsunamis and Hurricanes Waves

A Theory of Language and Information

1991

WRITTEN BY ONE OF THE MOST RESPECTED FIGURES IN AMERICAN LINGUISTICS THIS BOOK DEVELOPS AN APPROACH TO THE ANALYSIS OF LANGUAGE ON A MATHEMATICAL MODEL HARRIS PRESENTS A FORMAL THEORY OF LANGUAGE STRUCTURE IN WHICH SYNTAX IS CHARACTERIZED AS AN ORDERLY SYSTEM OF DEPARTURE FROM RANDOM COMBINGS OF SOUNDS WORDS AND ALL THE ELEMENTS OF LANGUAGE HE ARGUES THAT THE COMBINING OF WORDS IN A SENTENCE CONSTITUTES A MATHEMATICAL OBJECT AND THAT EACH DEPARTURE FROM RANDOMNESS IS A CONTRIBUTION TO THE STRUCTURE AND MEANING OF A SENTENCE DISCUSSING THE DIFFERENCES IN THE STRUCTURE AND CONTENT OF LANGUAGE MATHEMATICS AND MUSIC HARRIS SHOWS THAT THE USE OF LANGUAGE IN A SCIENCE CONSTITUTES A DISTINGUISHABLE SUB LANGUAGE REMARKABLE AND COMPELLING HARRIS S MAGNUM OPUS WILL BE CONSIDERED THE CLASSICAL ANALYSIS OF THE STRUCTURING OF INFORMATION AND DEVELOPMENT OF LANGUAGE

General Systems Theory

2006-04-11

AS SUGGESTED BY THE TITLE OF THIS BOOK I WILL PRESENT A COLLECTION OF COHERENTLY RELATED APPLICATIONS AND A THEORETICAL DEVELOPMENT OF A GENERAL SYSTEMS THEORY HOPEFULLY THIS BOOK WILL INVITE ALL READERS TO SAMPLE AN EXCITING AND CHALLENGING EVEN FUN PIECE OF INTERDISCIPLINARY RESEARCH THAT HAS CHARACTERIZED THE SCIENTIFIC AND TECHNOLOGICAL ACHIEVEMENTS OF THE TWENTIETH CENTURY AND I HOPE THAT MANY OF THEM WILL BE MOTIVATED TO DO ADDITIONAL READING AND TO CONTRIBUTE TO TOPICS ALONG THE LINES

DESCRIBED IN THE FOLLOWING PAGES SINCE THE APPLICATIONS IN THIS VOLUME RANGE THROUGH MANY SCIENTIFIC DISCIPLINES FROM SOCIOLOGY TO ATOMIC PHYSICS FROM EINSTEIN S RELATIVITY THEORY TO DIRAC S QUAN TUM MECHANICS FROM OPTIMIZATION THEORY TO UNREASONABLE EFFECTIVENESS OF MATHE MATICS TO FOUNDATIONS OF MATHEMATICAL MODELING FROM GENERAL SYSTEMS THEORY TO SCHWARTZ S DISTRIBUTIONS SPECIAL CARE HAS BEEN GIVEN TO WRITE EACH APPLICATION IN A LANGUAGE APPROPRIATE TO THAT FIELD THAT IS MATHEMATICAL SYMBOLS AND ABSTRACTIONS ARE USED AT DIFFERENT LEVELS SO THAT READERS IN VARIOUS FIELDS WILL FIND IT POSSIBLE TO READ ALSO BECAUSE OF THE WIDE RANGE OF APPLICATIONS EACH CHAPTER HAS BEEN WRITTEN SO THAT IN GENERAL THERE IS NO NEED TO REFERENCE A DIFFERENT CHAPTER IN ORDER TO UNDERSTAND A SPECIFIC APPLICATION AT THE SAME TIME IF A READER HAS THE DESIRE TO GO THROUGH THE ENTIRE BOOK WITHOUT SKIPPING ANY CHAPTER IT IS STRONGLY SUGGESTED TO REFER BACK TO CHAPTERS 2 AND 3 AS OFTEN AS POSSIBLE

A Mathematical Approach to Mathematics Appreciation

1975

SIGNAL PROCESSING A MATHEMATICAL APPROACH IS DESIGNED TO SHOW HOW MANY OF THE MATHEMATICAL TOOLS THE READER KNOWS CAN BE USED TO UNDERSTAND AND EMPLOY SIGNAL PROCESSING TECHNIQUES IN AN APPLIED ENVIRONMENT ASSUMING AN ADVANCED UNDERGRADUATE OR GRADUATE LEVEL UNDERSTANDING OF MATHEMATICS INCLUDING FAMILIARITY WITH FOURIER SERIES MATRICES PROBABILITY AND STATISTICS THIS SECOND EDITION CONTAINS NEW CHAPTERS ON CONVOLUTION AND THE VECTOR DFT PLANE WAVE PROPAGATION AND THE BLUE AND KALMAN FILTERS EXPANDS THE MATERIAL ON FOURIER ANALYSIS TO THREE NEW CHAPTERS TO PROVIDE ADDITIONAL BACKGROUND INFORMATION PRESENTS REAL WORLD EXAMPLES OF APPLICATIONS THAT DEMONSTRATE HOW MATHEMATICS IS USED IN REMOTE SENSING FEATURING PROBLEMS FOR USE IN THE CLASSROOM OR PRACTICE SIGNAL

PROCESSING A MATHEMATICAL APPROACH SECOND EDITION COVERS TOPICS SUCH AS FOURIER SERIES AND TRANSFORMS IN ONE AND SEVERAL VARIABLES APPLICATIONS TO ACOUSTIC AND ELECTRO MAGNETIC PROPAGATION MODELS TRANSMISSION AND EMISSION TOMOGRAPHY AND IMAGE RECONSTRUCTION SAMPLING AND THE LIMITED DATA PROBLEM MATRIX METHODS SINGULAR VALUE DECOMPOSITION AND DATA COMPRESSION OPTIMIZATION TECHNIQUES IN SIGNAL AND IMAGE RECONSTRUCTION FROM PROJECTIONS AUTOCORRELATIONS AND POWER SPECTRA HIGH RESOLUTION METHODS DETECTION AND OPTIMAL FILTERING AND EIGENVECTOR BASED METHODS FOR ARRAY PROCESSING AND STATISTICAL FILTERING TIME FREQUENCY ANALYSIS AND WAVELETS

Signal Processing

2014-11-12

THIS BOOK GIVES A SELF CONTAINED AND UP TO DATE ACCOUNT OF MATHEMATICAL RESULTS IN THE LINEAR THEORY OF WATER WAVES THE STUDY OF WAVES HAS MANY APPLICATIONS INCLUDING THE PREDICTION OF BEHAVIOR OF FLOATING BODIES SHIPS SUBMARINES TENSION LEG PLATFORMS ETC THE CALCULATION OF WAVE MAKING RESISTANCE IN NAVAL ARCHITECTURE AND THE DESCRIPTION OF WAVE PATTERNS OVER BOTTOM TOPOGRAPHY IN GEOPHYSICAL HYDRODYNAMICS THE FIRST SECTION DEALS WITH TIME HARMONIC WAVES THREE LINEAR BOUNDARY VALUE PROBLEMS SERVE AS THE APPROXIMATE MATHEMATICAL MODELS FOR THESE TYPES OF WATER WAVES THE NEXT SECTION USES A PLETHORA OF MATHEMATICAL TECHNIQUES IN THE INVESTIGATION OF THESE THREE PROBLEMS THE TECHNIQUES USED IN THE BOOK INCLUDE INTEGRAL EQUATIONS BASED ON GREEN S FUNCTIONS VARIOUS INEQUALITIES BETWEEN THE KINETIC AND POTENTIAL ENERGY AND INTEGRAL IDENTITIES WHICH ARE INDISPENSABLE FOR PROVING THE UNIQUENESS THEOREMS THE SO CALLED INVERSE PROCEDURE IS APPLIED TO CONSTRUCTING EXAMPLES OF NON UNIQUENESS USUALLY REFERRED TO AS TRAPPED NODES

Linear Water Waves

2002-07-11

UNCERTAINTY IS PRESENT IN EVERY MANAGERIAL DECISION AND MANAGERIAL ECONOMICS A MATHEMATICAL APPROACH EFFECTIVELY DEMONSTRATES THE APPLICATION OF HIGHER LEVEL STATISTICAL TOOLS TO INFORM AND CLARIFY THE LOGIC OF PROBLEM SOLVING IN A MANAGERIAL ENVIRONMENT WHILE ILLUMINATING MANAGERIAL DECISION MAKING FROM ALL POSSIBLE ANGLES THIS BOOK EQUIPS READERS WITH THE TOOLS AND SKILLS NEEDED TO RECOGNIZE AND ADDRESS UNCERTAINTY THE BOOK ALSO EXPLORES INDIVIDUAL FIRM AND MARKET LEVEL DECISIONS DISCUSSES ALL POSSIBLE RISKS AND UNCERTAINTIES ENCOUNTERED IN THE DECISION MAKING PROCESS AND PREPARES READERS TO DEAL WITH BOTH EPISTEMIC AND ALEATORY UNCERTAINTY IN MANAGERIAL DECISIONS MANAGERIAL ECONOMICS FEATURES AN EMPHASIS ON PRACTICAL APPLICATION THROUGH REAL LIFE EXAMPLES AND PROBLEMS AN ACCESSIBLE WRITING STYLE THAT PRESENTS TECHNICAL THEORIES IN A USER FRIENDLY WAY A MATHEMATICAL AND STATISTICAL POINT OF VIEW THAT REVEALS THE PRESENCE OF UNCERTAINTY INHERENT IN MANAGERIAL DECISIONS THOROUGHLY CLASS TESTED MATERIAL INCLUDING PROBLEMS AT THE END OF EACH CHAPTER CASE STUDY QUESTIONS REVIEW EXERCISES AND OBJECTIVES THAT SUMMARIZE THE MAIN DISCUSSIONS MANAGERIAL ECONOMICS IS AN EXCELLENT BOOK FOR UPPER UNDERGRADUATE AND GRADUATE LEVEL COURSES IN BUSINESS AND ECONOMICS DEPARTMENTS THE BOOK IS ALSO AN IDEAL REFERENCE AND RESOURCE FOR MANAGERS DECISION MAKERS MARKET ANALYSTS AND RESEARCHERS WHO REQUIRE INFORMATION ABOUT THE THEORETICAL AND QUANTITATIVE ASPECTS OF THE TOPIC

Managerial Economics

2012-11-05

THIS BOOK DESCRIBES HOW NEURAL NETWORKS OPERATE FROM THE MATHEMATICAL POINT OF VIEW AS A RESULT NEURAL NETWORKS CAN BE INTERPRETED BOTH AS FUNCTION UNIVERSAL APPROXIMATORS AND INFORMATION PROCESSORS THE BOOK BRIDGES THE GAP BETWEEN IDEAS AND CONCEPTS OF NEURAL NETWORKS WHICH ARE USED NOWADAYS AT AN INTUITIVE LEVEL AND THE PRECISE MODERN MATHEMATICAL LANGUAGE PRESENTING THE BEST PRACTICES OF THE FORMER AND ENJOYING THE ROBUSTNESS AND ELEGANCE OF THE LATTER THIS BOOK CAN BE USED IN A GRADUATE COURSE IN DEEP LEARNING WITH THE FIRST FEW PARTS BEING ACCESSIBLE TO SENIOR UNDERGRADUATES IN ADDITION THE BOOK WILL BE OF WIDE INTEREST TO MACHINE LEARNING RESEARCHERS WHO ARE INTERESTED IN A THEORETICAL UNDERSTANDING OF THE SUBJECT

Principles of Computer Programming

1987

THIS BOOK WAS INSPIRED BY THE GENERAL OBSERVATION THAT THE GREAT THEORIES OF MODERN PHYSICS ARE BASED ON SIMPLE AND TRANSPARENT UNDERLYING MATHEMATICAL STRUCTURES A FACT NOT USUALLY EMPHASIZED IN STANDARD PHYSICS TEXTBOOKS WHICH MAKES IT EASY FOR MATHEMATICIANS TO UNDERSTAND THEIR BASIC FEATURES IT IS A TEXTBOOK ON QUANTUM THEORY INTENDED FOR ADVANCED UNDERGRADUATE OR GRADUATE STUDENTS MATHEMATICS STUDENTS INTERESTED IN MODERN PHYSICS AND PHYSICS STUDENTS WHO ARE INTERESTED IN THE MATHEMATICAL BACKGROUND OF PHYSICS AND ARE DISSATISFIED WITH THE LEVEL OF RIGOR IN STANDARD

PHYSICS COURSES MORE GENERALLY IT OFFERS A VALUABLE RESOURCE FOR ALL MATHEMATICIANS INTERESTED IN MODERN PHYSICS AND ALL PHYSICISTS LOOKING FOR A HIGHER DEGREE OF MATHEMATICAL PRECISION WITH REGARD TO THE BASIC CONCEPTS IN THEIR FIELD

Deep Learning Architectures

2020-02-14

THIS IS A BOOK ABOUT A WELL KNOWN WRITER LEWIS CARROLL AND ABOUT A LITTLE KNOWN SUBJECT THE THEORY OF VOTING FROM THE EDITORS INTRODUCTION THIS BOOK HAS BEEN EDITED FROM THE MANUSCRIPTS OF THE LATE SCOTTISH ECONOMIST DUNCAN BLACK SHORTLY AFTER THE PUBLICATION OF THE THEORY OF COMMITTEES AND ELECTIONS BLACK STARTED TO COLLECT MATERIAL FOR PAPERS AND A BOOK ON LEWIS CARROLL S THEORY OF PROPORTIONAL REPRESENTATION BLACK S CHAPTER PLANS MADE IT CLEAR THAT THE BOOK WAS TO BE IN THREE PARTS WRITTEN BY HIMSELF FOLLOWED BY A REPRINT OF CARROLL S PRINCIPLES OF PARLIAMENTARY REPRESENTATION AND ITS MAIN SOURCES PART I IS BIOGRAPHICAL INTRODUCING LEWIS CARROLL AND GIVING RELEVANT DETAILS OF HIS LIFE PART II IS BLACK S ALREADY PUBLISHED WORK ON LEWIS CARROLL PART III COMPRISES THE MORE DETAILED ARGUMENTS ABOUT CARROLL S REASONING AND PART IV CONTAINS REPRINTS OF RARE ORIGINAL MATERIAL ON PROPORTIONAL REPRESENTATION BY CARROLL JAMES GARTH MARSHALL AND WALTER BAILY TAKEN TOGETHER THE EDITORS HAVE PROVIDED A COMPLETE REFERENCE SOURCE FOR THE THEORY OF VOTING AND PROPORTIONAL REPRESENTATION

Quantum Theory

2016-09-10

THE BOOK EXPOUNDS THE MAJOR TOPICS IN THE SPECIAL THEORY OF RELATIVITY IT PROVIDES A DETAILED EXAMINATION OF THE MATHEMATICAL FOUNDATION OF THE SPECIAL THEORY OF RELATIVITY RELATIVISTIC MASS RELATIVISTIC MECHANICS AND RELATIVISTIC ELECTRODYNAMICS AS WELL AS COVARIANT FORMULATION OF RELATIVISTIC MECHANICS AND ELECTRODYNAMICS THE BOOK DISCUSSES THE RELATIVISTIC EFFECT ON PHOTONS USING A MATHEMATICAL APPROACH THE TEXT OFFERS GRADUATE STUDENTS A CLEAR CONCISE VIEW OF THE SPECIAL THEORY OF RELATIVITY ORGANIZED INTO 14 CHAPTERS AND TWO APPENDICES THE CONTENT IS PRESENTED IN A LOGICAL ORDER AND EVERY TOPIC HAS BEEN DEALT WITH IN A SIMPLE AND LUCID MANNER TO AID UNDERSTANDING OF THE SUBJECT THE BOOK PROVIDES NUMEROUS RELEVANT WORKED EXAMPLES IN EVERY CHAPTER THE BOOK S MATHEMATICAL APPROACH HELPS STUDENTS IN THEIR INDEPENDENT STUDY AND MOTIVATES THEM TO RESEARCH THE TOPIC FURTHER

A Mathematical Approach to Proportional Representation: Duncan Black on Lewis Carroll

2012-09-07

THIS BOOK DEALS WITH THE GENRE OF GEOMETRIC DESIGN IN THE ISLAMIC SPHERE PART I PRESENTS AN OVERVIEW OF ISLAMIC HISTORY ITS EXTRAORDINARY SPREAD FROM THE ATLANTIC TO THE BORDERS OF CHINA IN ITS FIRST CENTURY

ITS ADOPTION OF THE CULTURAL OUTLOOK OF THE OLDER CIVILISATIONS THAT IT CONQUERED IN THE MIDDLE EAST PERSIA AND CENTRAL ASIA INCLUDING THEIR PHILOSOPHICAL AND SCIENTIFIC ACHIEVEMENTS FROM WHICH IT CAME TO EXPRESS ITS OWN UNIQUE AND HIGHLY DISTINCTIVE ARTISTIC AND ARCHITECTURAL FORMS PART II REPRESENTS THE MATHEMATICAL ANALYSIS OF ISLAMIC GEOMETRIC DESIGNS THE PRESENTATION OFFERS UNLIMITED PRECISION THAT ALLOWS SOFTWARE TO RECONSTRUCT THE DESIGN VISION OF THE ORIGINAL ARTIST THIS BOOK WILL BE OF INTEREST TO ISLAMIC ACADEMICS MATHEMATICIANS AS WELL AS TO ARTISTS ART STUDENTS

The Special Theory of Relativity

2014-10-07

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Islamic Design: A Mathematical Approach

2018-05-18

THE THEORY OF CONSUMER BEHAVIOR THE THEORY OF THE FIRM MARKET EQUILIBRIUM MULTIMARKET EQUILIBRIUM IMPERFECT COMPETITION WELFARE ECONOMICS OPTIMIZATION OVER TIME LINEAR MODELS MATHEMATICAL REVIEW

Random Processes

1986

THIS BOOK USES SIMPLE GEOMETRY TRIGONOMETRY AND ALGEBRA TO EXPLAIN HOW TO CONSTRUCT AND CALCULATE THE GOLDEN RATIO STARTING FROM EUCLIDS PROPOSITIONS IN THE ELEMENTS THE GOLDEN RATIO AND ITS RELATED GEOMETRY SUCH AS THE PENTAGON PENTAGRAM AND VESICA PISCIS ARE CONSTRUCTED AND DETERMINED GRAPHICALLY THEN THE VALUE OF THE RATIO IS SOLVED BY QUADRATIC EQUATIONS AND DEPENDING ON THE INITIAL ASSUMPTIONS TWO VALUES ARE FOUND IT IS PROPOSED THAT THE RATIO CAN BE OBTAINED EASILY BY APPLYING THE PYTHAGORAS THEOREM COMMON TERMS LIKE GOLDEN TRIANGLE GOLDEN RHOMBUS GOLDEN SPIRAL AND GOLDEN ANGLE ARE DEDUCED AND EXPLAINED THE CONNECTIONS BETWEEN THE GOLDEN RATIO AND FIBONACCI NUMBERS CONTINUED FRACTIONS FRACTALS CHAOS AND TILING ARE ALSO INTRODUCED THE CONCLUSION IS THAT IT IS MATHEMATICS AND NOT THE GOLDEN RATIO THAT IS FASCINATING

Elementary Cryptanalysis

1982

THIS BOOK EXPLORES QUANTITATIVE ASPECTS OF PROTEIN BIOPHYSICS AND ATTEMPTS TO DELINEATE CERTAIN RULES OF MOLECULAR BEHAVIOR THAT MAKE ATOMIC SCALE OBJECTS BEHAVE IN A DIGITAL WAY THIS BOOK WILL HELP READERS TO UNDERSTAND HOW CERTAIN BIOLOGICAL SYSTEMS INVOLVING PROTEINS FUNCTION AS DIGITAL INFORMATION SYSTEMS DESPITE THE FACT THAT UNDERLYING PROCESSES ARE ANALOG IN NATURE THE IN DEPTH EXPLANATION OF PROTEINS FROM A QUANTITATIVE POINT OF VIEW AND THE VARIETY OF LEVEL OF EXERCISES

INCLUDING PHYSICAL EXPERIMENTS AT THE END OF EACH CHAPTER WILL APPEAL TO GRADUATE AND SENIOR UNDERGRADUATE STUDENTS IN MATHEMATICS COMPUTER SCIENCE MECHANICAL ENGINEERING AND PHYSICS WANTING TO LEARN ABOUT THE BIOPHYSICS OF PROTEINS L RIDGWAY SCOTT HAS BEEN PROFESSOR OF COMPUTER SCIENCE AND OF MATHEMATICS AT THE UNIVERSITY OF CHICAGO SINCE 1998 AND THE LOUIS BLOCK PROFESSOR SINCE 2001 HE OBTAINED A B S DEGREE MAGNA CUM LAUDE FROM TULANE UNIVERSITY IN 1969 AND A PHD DEGREE IN MATHEMATICS FROM THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY IN 1973 PROFESSOR SCOTT HAS PUBLISHED OVER 130 PAPERS AND THREE BOOKS EXTENDING OVER BIOPHYSICS PARALLEL COMPUTING AND FUNDAMENTAL COMPUTING ASPECTS OF STRUCTURAL MECHANICS FLUID DYNAMICS NUCLEAR ENGINEERING AND COMPUTATIONAL CHEMISTRY ARIEL FERN�NDEZ BORN ARIEL FERN�NDEZ STIGLIANO IS AN ARGENTINIAN AMERICAN PHYSICAL CHEMIST AND MATHEMATICIAN HE OBTAINED HIS PH D DEGREE IN CHEMICAL PHYSICS FROM YALE UNIVERSITY AND HELD THE KARL F HASSELMANN ENDOWED CHAIR PROFESSORSHIP IN BIOENGINEERING AT RICE UNIVERSITY HE IS CURRENTLY INVOLVED IN RESEARCH AND ENTREPRENEURIAL ACTIVITIES AT VARIOUS CONSULTANCY FIRMS ARIEL FERN�NDEZ AUTHORED THREE BOOKS ON TRANSLATIONAL MEDICINE AND BIOPHYSICS AND PUBLISHED 360 PAPERS IN PROFESSIONAL JOURNALS HE HOLDS TWO PATENTS IN THE FIELD OF BIOTECHNOLOGY

Modelling in Geography

1980

RELATIVITYSIMPLE SHOCKING WORTHWHILETHE MATHEMATICS IS SIMPLE ONLY HIGH SCHOOL ALGEBRA IS USED IT IS THE CONCEPTS THAT ARE DIFFICULT TO GRASP BECAUSE THEY REQUIRE YOU TO SET ASIDE COMMONLY HELD NOTIONS ABOUT REALITY AND ACCEPT TRUTHS THAT ARE PROFOUNDLY COUNTERINTUITIVE SPECIAL RELATIVITY IS SHOCKING FROM SIMPLE PREMISES COME MIND BENDING COROLLARIES THAT EXCITE THE IMAGINATION IDEAS LIKE TIME TRAVEL

LENGTH CONTRACTION TIME DILATION AND THE TWIN PARADOX ARE ALL EASILY UNDERSTOOD WITH AN UNDERSTANDING OF EINSTEIN S GREAT THEOREM WHILE CONCEPTUALLY CHALLENGING IT IS WORTH THE EFFORT DR TRIMBLE WILL MAKE EINSTEIN S THEORY OF SPECIAL RELATIVITY ENTERTAINING ENGAGING AND ATTAINABLE PLAN FOR SOME ENJOYABLE AFTERNOONS OF FUN AND LEARNING

Microeconomic Theory

1971

IN ALGEBRA AN ENTITY IS CALLED LINEAR IF IT CAN BE EXPRESSED IN TERMS OF ADDITION AND MULTIPLICATION BY A SCALAR A LINEAR EXPRESSION IS A SUM OF SCALAR MULTIPLES OF THE ENTITIES UNDER CONSIDERATION ALSO AN OPERATION IS CALLED LINEAR IF IT PRESERVES ADDITION AND MULTIPLICATION BY A SCALAR FOR EXAMPLE IF A AND B ARE 2×2 REAL MATRICES V IS A ROW VECTOR IN THE REAL PLANE AND C IS A REAL NUMBER THEN V A B VA VB AND CV A C VA THAT IS THE PROCESS OF APPLYING A MATRIX TO A VECTOR IS LINEAR LINEAR ALGEBRA IS THE STUDY OF PROPERTIES AND SYSTEMS WHICH PRESERVE THESE TWO OPERATIONS AND THE FOLLOWING PAGES PRESENT THE BASIC THEORY AND RESULTS OF THIS IMPORTANT BRANCH OF PURE MATHEMATICS THERE ARE MANY BOOKS ON LINEAR ALGEBRA IN THE BOOKSHOPS AND LIBRARIES OF THE WORLD SO WHY WRITE ANOTHER A NUMBER OF EXCELLENT TEXTS WERE WRITTEN ABOUT FIFTY YEARS AGO SEE THE BIBLIOGRAPHY IN THE INTERVENING PERIOD THE STYLE OF MATH EMATICAL PRESENTATION HAS CHANGED ALSO SOME OF THE MORE MODERN TEXTS HAVE CONCENTRATED ON APPLICATIONS BOTH INSIDE AND OUTSIDE MATHEMATICS THERE IS NOTH ING WRONG WITH THIS APPROACH THESE BOOKS SERVE A VERY USEFUL PURPOSE BUT LINEAR ALGEBRA CONTAINS SOME FINE PURE MATHEMATICS AND SO A MODERN TEXT TAKING THE PURE MATHEMATICIAN S VIEWPOINT WAS THOUGHT TO BE WORTHWHILE

The Interesting Golden Ratio

2016-02-11

THE REQUIREMENT OF CAUSALITY IN SYSTEM THEORY IS INEVITABLY ACCOMPANIED BY THE APPEARANCE OF CERTAIN MATHEMATICAL OPERATIONS NAMELY THE RIESZ PROJ TION THEHILBERTTRANSFORM ANDTHESPECTRALFACTORIZATIONMAPPING ACLASSICAL EXAMPLEILLUSTRATINGTHISISTHEDETERMINATIONOFTHESO CALLEDWIENER LTER THE LINEAR MINIMUM MEANS SQUARE ERROR ESTIMATION LTER FOR STATIONARY STOCHASTIC SEQUENCES 88 IF THE LTER IS NOT REQUIRED TO BE CAUSAL THE TRANSFER FUNCTION OF THE WIENER LTER IS SIMPLY GIVEN BY H WHERE XY XX XX AND ARE CERTAIN GIVEN FUNCTIONS HOWEVER IF ONE REQUIRES THAT THE XY TIMATION LTER IS CAUSAL THE TRANSFER FUNCTION OF THE OPTIMAL LTER IS GIVEN BY 1 XY H P XX XX HERE AND REPRESENT THE SO CALLED SPECTRAL FACTORS OF AND XX XX XX P IS THE SO CALLED RIESZ PROJECTION THUS COMPARED TO THE NON CAUSAL LTER TWO ADDITIONAL OPERATIONS ARE NECESSARY FOR THE DETERMINATION OF THE CAUSAL LTER NAMELY THE SPECTRAL FACTORIZATION MAPPING AND XX XX XX THE RIESZ PROJECTION P

A Mathematical Approach to Biology

1972

AN INTRODUCTION TO MANY MATHEMATICAL TOPICS APPLICABLE TO QUANTITATIVE FINANCE THAT TEACHES HOW TO THINK IN MATHEMATICS RATHER THAN SIMPLY DO MATHEMATICS BY ROTE THIS TEXT OFFERS AN ACCESSIBLE YET RIGOROUS DEVELOPMENT OF MANY OF THE FIELDS OF MATHEMATICS NECESSARY FOR SUCCESS IN INVESTMENT AND QUANTITATIVE FINANCE COVERING TOPICS APPLICABLE TO PORTFOLIO THEORY INVESTMENT BANKING OPTION PRICING

INVESTMENT AND INSURANCE RISK MANAGEMENT THE APPROACH EMPHASIZES THE MATHEMATICAL FRAMEWORK PROVIDED BY EACH MATHEMATICAL DISCIPLINE AND THE APPLICATION OF EACH FRAMEWORK TO THE SOLUTION OF FINANCE PROBLEMS IT EMPHASIZES THE THOUGHT PROCESS AND MATHEMATICAL APPROACH TAKEN TO DEVELOP EACH RESULT INSTEAD OF THE MEMORIZATION OF FORMULAS TO BE APPLIED OR MISAPPLIED AUTOMATICALLY THE OBJECTIVE IS TO PROVIDE A DEEP LEVEL OF UNDERSTANDING OF THE RELEVANT MATHEMATICAL THEORY AND TOOLS THAT CAN THEN BE EFFECTIVELY USED IN PRACTICE TO TEACH STUDENTS HOW TO THINK IN MATHEMATICS RATHER THAN SIMPLY TO DO MATHEMATICS BY ROTE EACH CHAPTER COVERS AN AREA OF MATHEMATICS SUCH AS MATHEMATICAL LOGIC EUCLIDEAN AND OTHER SPACES SET THEORY AND TOPOLOGY SEQUENCES AND SERIES PROBABILITY THEORY AND CALCULUS IN EACH CASE PRESENTING ONLY MATERIAL THAT IS MOST IMPORTANT AND RELEVANT FOR QUANTITATIVE FINANCE EACH CHAPTER INCLUDES FINANCE APPLICATIONS THAT DEMONSTRATE THE RELEVANCE OF THE MATERIAL PRESENTED PROBLEM SETS ARE OFFERED ON BOTH THE MATHEMATICAL THEORY AND THE FINANCE APPLICATIONS SECTIONS OF EACH CHAPTER THE LOGICAL ORGANIZATION OF THE BOOK AND THE JUDICIOUS SELECTION OF TOPICS MAKE THE TEXT CUSTOMIZABLE FOR A NUMBER OF COURSES THE DEVELOPMENT IS SELF CONTAINED AND CAREFULLY EXPLAINED TO SUPPORT DISCIPLINED INDEPENDENT STUDY AS WELL A SOLUTIONS MANUAL FOR STUDENTS PROVIDES SOLUTIONS TO THE BOOK S PRACTICE EXERCISES AN INSTRUCTOR S MANUAL OFFERS SOLUTIONS TO THE ASSIGNMENT EXERCISES AS WELL AS OTHER MATERIALS

A Mathematical Approach to Protein Biophysics

2017-12-18

THIS MONOGRAPH HAS THE AMBITIOUS AIM OF DEVELOPING A MATHEMATICAL THEORY OF COMPLEX BIOLOGICAL SYSTEMS WITH SPECIAL ATTENTION TO THE PHENOMENA OF AGEING DEGENERATION AND REPAIR OF BIOLOGICAL

TISSUES UNDER INDIVIDUAL SELF REPAIR ACTIONS THAT MAY HAVE GOOD POTENTIAL IN MEDICAL THERAPY THE APPROACH TO MATHEMATICALLY MODELING BIOLOGICAL SYSTEMS NEEDS TO TACKLE THE ADDITIONAL DIFFICULTIES GENERATED BY THE PECULIARITIES OF LIVING MATTER THESE INCLUDE THE LACK OF INVARIANCE PRINCIPLES ABILITIES TO EXPRESS STRATEGIES FOR INDIVIDUAL FITNESS HETEROGENEOUS BEHAVIORS COMPETITION UP TO PROLIFERATIVE AND OR DESTRUCTIVE ACTIONS MUTATIONS LEARNING ABILITY EVOLUTION AND MANY OTHERS APPLIED MATHEMATICIANS IN THE FIELD OF LIVING SYSTEMS ESPECIALLY BIOLOGICAL SYSTEMS WILL APPRECIATE THE SPECIAL CLASS OF INTEGRO DIFFERENTIAL EQUATIONS OFFERED HERE FOR MODELING AT THE MOLECULAR CELLULAR AND TISSUE SCALES A UNIQUE PERSPECTIVE IS ALSO PRESENTED WITH A NUMBER OF CASE STUDIES IN BIOLOGICAL MODELING CONTENTS LOOKING FOR A MATHEMATICAL THEORY OF BIOLOGICAL SYSTEMSON THE COMPLEXITY OF BIOLOGICAL SYSTEMSIMMUNE SYSTEM WOUND HEALING PROCESS AND SYSTEM BIOLOGY THE IMMUNE SYSTEM A PHENOMENOLOGICAL OVERVIEWWOUND HEALING PROCESS AND ORGAN REPAIRFROM LEVELS OF BIOLOGICAL ORGANIZATION TO SYSTEM BIOLOGYMATHEMATICAL TOOLS MATHEMATICAL TOOLS AND STRUCTURESMULTISCALE MODELING LINKING MOLECULAR CELLULAR AND TISSUES SCALESAPPLICATIONS AND RESEARCH PERSPECTIVES A MODEL FOR THE MALIGN KELOID FORMATION AND IMMUNE SYSTEM COMPETITIONMACROSCOPIC MODELS OF CHEMOTAXIS BY KTAP ASYMPTOTIC METHODSLOOKING AHEAD READERSHIP RESEARCHERS IN MATHEMATICAL MODELING AND BIOLOGICAL SYSTEMS KEYWORDS MATHEMATICAL THEORY BIOLOGICAL SYSTEMS SUBSYSTEMKEY FEATURES PROVIDES A NEW CONCEPTUAL BACKGROUND TO APPLIED MATHEMATICIANS INVOLVED IN THE CHALLENGING RESEARCH FIELD OF LIVING SYSTEMS AND SPECIFICALLY BIOLOGY SYSTEMSGIVES MORE ACCURATE ODE CELLULAR AUTOMATA AND CONTINUUM MODELS FROM THE BIOLOGICAL POINT OF VIEW

Einstein's Theory of Special Relativity

2015-06-20

A SYSTEM THEORY OF THE MIND IT SOUNDS LIKE CYBERNETICS CHAOS THEORY AUTOPOIESIS OR THE THEORY OF MIND TOM THIS MONOGRAPH HOWEVER AIMS TO BREAK NEW GROUND LEAFING THROUGH THIS BOOK ONE NOTICES FORMULAE AND UNUSUAL CHARACTERS WHICH SEEM TO JOIN FORCES AND WALK ACROSS THE PAGES LIKE CENTIPEDES THIS BOOK IS MORE THAN CHALLENGING FOR READERS WHO DO NOT COME INTO CONTACT WITH MATHEMATICS REGULARLY AND THIS IS HOW THE AUTHOR BELIEVES HE CAN EXPLAIN WHAT NOBODY HAS THUS FAR BEEN ABLE TO EXPLAIN HOW CAN THE MIND BE UNDERSTOOD AND HOW CAN ITS STATE VARIABLES BE CALCULATED HE DRAWS ON QUANTUM PHYSICS A FIELD THAT IS OFT EN NOT UNDERSTOOD EVEN BY ITS OWN PRACTITIONERS HOW CAN SUCH A BOOK EXPECT TO REACH READERS AND HOW CAN THE VIEWS INCLUDED HERE EXPECT TO FIND ADHERENTS EVEN SCIENTISTS WHO DEVOTE THEMSELVES TO RESEARCH ON THE MIND ARE LIKELY TO ESCHEW THE IMAGINARY AND COMPLEX NUMBERS FOURIER TRANSFORMATIONS AND QUATERNIONS PRESENTED HERE IN FAVOUR OF MORE ESTABLISHED AND CONVENTIONAL APPROACHES ONCE ONE HAS STARTED READING IT SOON BECOMES APPARENT THAT IT MIGHT NOT BE WISE OR EVEN POSSIBLE TO IGNORE THE IDEAS PRESENTED HERE FOR LONG PROF DR GERALD WOLF FROM THE FOREWORD A VERY INTERESTING BOOK EXPLAINING MENTAL PROCESSES WITH MATHEMATIC FORMULAE SEEMS TO BE ADVENTUROUS HOWEVER IT IS A PROMISING APPROACH PROF DR PAUEN HUMBOLDT UNIVERSITY BERLIN

Linear Algebra

2002

QUANTITATIVE BUSINESS VALUATION A MATHEMATICAL APPROACH FOR TODAY S PROFESSIONALS ESSENTIAL READING FOR THE SERIOUS BUSINESS APPRAISER QUANTITATIVE BUSINESS VALUATION SECOND EDITION IS THE DEFINITIVE GUIDE TO QUANTITATIVE MEASUREMENTS IN THE VALUATION PROCESS NO OTHER BOOK WRITTEN ON BUSINESS VALUATION IS AS WELL RESEARCHED INNOVATIVE AND BOTTOM LINE BENEFICIAL TO YOU AS A

PRACTITIONER WRITTEN BY LEADING VALUATION AND LITIGATION ECONOMIST JAY B ABRAMS THIS TEXT IS A RIGOROUS AND EYE OPENING TREATMENT FILLED WITH APPLICATIONS FOR A WIDE VARIETY OF SCENARIOS IN THE VALUATION OF YOUR PRIVATELY HELD BUSINESS SUBSTANTIALLY REVISED FOR GREATER CLARITY AND LOGICAL FLOW THE SECOND EDITION INCLUDES NEW COVERAGE OF CONVERTING FORECAST NET INCOME TO FORECAST CASH FLOW DAMAGES IN MANUFACTURING FIRMS REGRESSING SCALED Y VARIABLES AS A WAY TO CONTROL FOR HETEROSCEDASTICITY MATHEMATICAL DERIVATION OF THE PRICE TO SALES PS RATIO MONTE CARLO SIMULATION MCS AND REAL OPTIONS RO ANALYSIS VENTURE CAPITAL AND ANGEL INVESTOR RATES OF RETURN LOST INVENTORY AND LOST PROFITS DAMAGE FORMULAS IN LITIGATION ORGANIZED INTO SEVEN SECTIONS THE FIRST THREE PARTS OF THIS BOOK FOLLOW THE CHRONOLOGICAL SEQUENCE OF PERFORMING A DISCOUNTED CASH FLOW THE FOURTH PART PUTS IT ALL TOGETHER COVERING EMPIRICAL TESTING OF ABRAMS VALUATION THEORY AND MEASURING VALUATION UNCERTAINTY AND ERROR PARTS FIVE TO SEVEN ROUND IT ALL OUT WITH DISCUSSION OF LITIGATION VALUING ESOPS AND PARTNERSHIP BUYOUTS AND PROBABILISTIC METHODS INCLUDING VALUING START UPS THE RESULTING WORK SOLIDLY GROUNDED IN ECONOMIC THEORY AND INCLUDING ALL NECESSARY MATHEMATICS INTEGRATES EXISTING SCIENCE INTO THE VALUATION PROFESSION AND DEVELOPS VALUATION FORMULAS AND MODELS THAT YOU WILL FIND USEFUL ON A DAILY BASIS

Advanced Topics in System and Signal Theory

2009-10-16

DEPLOY DEEP LEARNING SOLUTIONS IN PRODUCTION WITH EASE USING TENSORFLOW YOU LL ALSO DEVELOP THE MATHEMATICAL UNDERSTANDING AND INTUITION REQUIRED TO INVENT NEW DEEP LEARNING ARCHITECTURES AND SOLUTIONS ON YOUR OWN PRO DEEP LEARNING WITH TENSORFLOW PROVIDES PRACTICAL HANDS ON EXPERTISE SO

YOU CAN LEARN DEEP LEARNING FROM SCRATCH AND DEPLOY MEANINGFUL DEEP LEARNING SOLUTIONS THIS BOOK WILL ALLOW YOU TO GET UP TO SPEED QUICKLY USING TENSORFLOW AND TO OPTIMIZE DIFFERENT DEEP LEARNING ARCHITECTURES ALL OF THE PRACTICAL ASPECTS OF DEEP LEARNING THAT ARE RELEVANT IN ANY INDUSTRY ARE EMPHASIZED IN THIS BOOK YOU WILL BE ABLE TO USE THE PROTOTYPES DEMONSTRATED TO BUILD NEW DEEP LEARNING APPLICATIONS THE CODE PRESENTED IN THE BOOK IS AVAILABLE IN THE FORM OF IPYTHON NOTEBOOKS AND SCRIPTS WHICH ALLOW YOU TO TRY OUT EXAMPLES AND EXTEND THEM IN INTERESTING WAYS YOU WILL BE EQUIPPED WITH THE MATHEMATICAL FOUNDATION AND SCIENTIFIC KNOWLEDGE TO PURSUE RESEARCH IN THIS FIELD AND GIVE BACK TO THE COMMUNITY WHAT YOU LL LEARN UNDERSTAND FULL STACK DEEP LEARNING USING TENSORFLOW AND GAIN A SOLID MATHEMATICAL FOUNDATION FOR DEEP LEARNING DEPLOY COMPLEX DEEP LEARNING SOLUTIONS IN PRODUCTION USING TENSORFLOW CARRY OUT RESEARCH ON DEEP LEARNING AND PERFORM EXPERIMENTS USING TENSORFLOW WHO THIS BOOK IS FOR DATA SCIENTISTS AND MACHINE LEARNING PROFESSIONALS SOFTWARE DEVELOPERS GRADUATE STUDENTS AND OPEN SOURCE ENTHUSIASTS

The Mathematical Approach to Physiological Problems

2012-05-01

HERE THE AUTHORS STRIVE TO CHANGE THE WAY LOGIC AND DISCRETE MATH ARE TAUGHT IN COMPUTER SCIENCE AND MATHEMATICS WHILE MANY BOOKS TREAT LOGIC SIMPLY AS ANOTHER TOPIC OF STUDY THIS ONE IS UNIQUE IN ITS WILLINGNESS TO GO ONE STEP FURTHER THE BOOK TRAETS LOGIC AS A BASIC TOOL WHICH MAY BE APPLIED IN ESSENTIALLY EVERY OTHER AREA

Microeconomic Theory A Mathematical Approach

1988

THIS BOOK IS ABOUT TWO THINGS PUZZLES AND MATHEMATICS IT TALKS ABOUT HOW YOU CAN MODEL A PUZZLE MATHEMATICALLY AND SOLVE IT IN AN EASY STRUCTURED AND SYSTEMATIC WAY SO YOU WOULD NOT ONLY LEARN THE DIFFERENT MATHEMATICAL CONCEPTS BUT ALSO AT THE SAME TIME ENJOY SOLVING DIFFERENT WELL KNOWN PUZZLES AND IF THAT S NOT ENOUGH THERE IS A SET OF INTERESTING PUZZLES AT THE END OF EACH CHAPTER TO KEEP YOUR GREY CELLS TICKING THIS BOOK NOT ONLY HELPS YOU UNDERSTAND THE MATHEMATICAL CONCEPTS IN A FUN WAY BUT ALSO HELPS YOU LEARN THE TECHNIQUES OF SOLVING PUZZLES IN AN EASY WAY SO IF YOU LIKE MATHEMATICS OR PUZZLES THEN YOU WOULD DEFINITELY LIKE THIS BOOK THIS BOOK IS RECOMMENDED FOR SCHOOL AND COLLEGE STUDENTS AS IT WOULD HELP THEM APPRECIATE THE PRACTICAL APPLICATION OF THE MATHEMATICAL CONCEPTS THEY LEARN AS PART OF THEIR ACADEMICS AND IF YOU ARE A SERIOUS PUZZLE SOLVER THEN THIS IS THE BOOK YOU ARE WAITING FOR NOT ONLY DOES THE BOOK TEACH YOU THE MODELLING TECHNIQUES TO SOLVE A PUZZLE BUT ALSO CHALLENGES YOU WITH A SET OF INTERESTING NEW PUZZLES WRITTEN IN A SIMPLE WAY WITH SELF EXPLAINING GRAPHICAL ILLUSTRATIONS THIS BOOK IS A TREAT

Introduction to Quantitative Finance

2010-01-29

THE STUDY IS AN EXAMINATION OF THE MATHEMATICAL METHODS OF PTOLEMY AND HIS PREDECESSORS IT ATTEMPTS SO FAR AS POSSIBLE TO SITUATE THIS WORK IN THE CONTEXT OF WHAT WE KNOW ABOUT THE REST OF GREEK

MATHEMATICS AND THE EXACT SCIENCES WITH LITTLE OR NO REFERENCE TO CURRENT SCIENTIFIC AND MATHEMATICAL KNOWLEDGE EACH OF THESE CHAPTERS DESCRIBES A DOMAIN OF GREEK MATHEMATICAL PRACTICE THAT IS NOT WITNESSED IN THE THEORETICAL TEXTS AND IS GENERALLY LEFT OUT OF DISCUSSIONS OF GREEK MATHEMATICS MOREOVER IN EACH CASE I HELP THE READER DEVELOP A SENSE FOR THE METHODS AND PRACTICES OF THE ANCIENTS INSTEAD OF FOCUSING SIMPLY ON THEIR RESULTS THE THIRD CHAPTER IS AN EXAMINATION OF ALL OF THE EVIDENCE WE HAVE FOR THE SO CALLED MENELAUS THEOREM THE FUNDAMENTAL THEOREM OF ANCIENT SPHERICAL TRIGONOMETRY IT STUDIES THE TEXTS OF PTOLEMY HIS PREDECESSORS AND HIS COMMENTATORS AND SHOWS THAT THE LINE OF TRANSMISSION CANNOT HAVE BEEN AS STRAIGHTFORWARD AS HAS PREVIOUSLY BEEN ASSUMED THIS IS FOLLOWED BY AN INVESTIGATION OF PTOLEMY S PRACTICES IN APPLYING THE FUNDAMENTAL THEOREM THIS STUDY OF PTOLEMY S SPHERICAL ASTRONOMY ACTS AS A CASE STUDY WHICH GIVES US INSIGHT INTO THE DEDUCTIVE STRUCTURE OF PTOLEMY S EXACT SCIENCE THIS INVESTIGATION ALLOWS US TO DEVELOP A SENSE FOR HOW THE ANCIENT MATHEMATICAL ASTRONOMER USED THESE METHODS TO PRODUCE NEW RESULTS THE FINAL CHAPTER IS AN EXEGESIS OF ANCIENT METHODS OF PROJECTING THE SPHERE ONTO THE PLANE IT EXPLORES THE TEXTS OF PTOLEMY AND HIS PREDECESSORS WHICH ARE CONCERNED WITH PROJECTING THE SPHERE EITHER FOR THE PURPOSE OF DRAWING MAPS OR IN ORDER TO MODEL THE SPHERE AND SOLVE FOR ARC LENGTHS THIS LEADS TO DISCUSSIONS OF TWO IMPORTANT ANCIENT METHODS OF DOING SPHERICAL GEOMETRY THE SECOND CHAPTER IS A STUDY OF THE FIRST AND MOST CRUCIAL APPLICATION OF THESE METHODS THE DEVELOPMENT OF THE CHORD TABLE AND ITS APPLICATION TO TRIGONOMETRIC PROBLEMS IT ALSO EXAMINES THE TRIGONOMETRIC METHODS OF THE HELLENISTIC MATHEMATICAL ASTRONOMERS AND SHOWS HOW THESE FUNDAMENTALLY DIFFERED FROM PTOLEMY S PRACTICE IT DEVELOPS A GENERAL PICTURE OF THE MATHEMATICAL PRACTICES USED IN THE TRIGONOMETRY BY MEANS OF CHORD TABLES AFTER A BRIEF DISCUSSION OF PTOLEMY S PHILOSOPHY OF MATHEMATICS THE FIRST CHAPTER GIVES A CLASSIFICATION OF TYPES OF MATHEMATICAL TEXT FOUND IN PTOLEMY AND THE GREEK APPLIED MATHEMATICAL TRADITION IN GENERAL THIS IS FOLLOWED BY SECTIONS THAT DEAL WITH THE USE OF RATIO AND TABLES IN PTOLEMY S WORK IN ORDER TO APPLY METRICAL METHODS TO GEOMETRICAL PROBLEMS PTOLEMY USES PROPORTIONS AS EQUATIONS AND DEVELOPS

TABLES TO MODEL CONTINUOUS FUNCTIONS BOTH OF THESE PRACTICES ALTHOUGH NATURAL TO US ARE UNUSUAL IN THE CONTEXT OF GREEK MATHEMATICS I EXAMINE THE IMPLICIT ASSUMPTIONS AND EXPLAIN HOW THESE METHODS SERVE THE APPLIED MATHEMATICIAN

Towards a Mathematical Theory of Complex Biological Systems

2011-01-12

THIS BOOK IS A TEXTBOOK IT INCLUDES FOR EXAMPLE EXERCISES AND OUTLINE SOLUTIONS THE PLANT SCIENTIST IS SHOWN HOW TO EXPRESS PHYSIOLOGICAL IDEAS MATHEMATICALLY AND HOW TO DEDUCE QUANTITATIVE CONCLUSIONS WHICH CAN THEN BE COMPARED WITH EXPERIMENT THERE IS LITTLE NEW BIOLOGY IN THE BOOK BUT IT IS PRESENTED IN A WAY THAT WILL BE NEW TO MANY BIOLOGISTS THE MATCHING OF MODELS TO EXPERIMENTS MEANS USING MATHEMATICS FOR FORMULATING BIOLOGICAL CONCEPTS AND SECOND USING ALGEBRA CALCULUS OR NOW MORE FREQUENTLY COMPUTERS TO SOLVE OR SIMULATE THE RESULTING MODEL AND FINALLY COMPARING QUALITATIVELY OR QUANTITATIVELY PREDICTION TO MEASUREMENT COMPUTERS ARE THE IMPORTANT ENABLING TECHNOLOGY THAT MAKES IT ALL POSSIBLE SOLVING EQUATIONS ASSEMBLING MODELS OF INCREASING SOPHISTICATION AND COMPLEXITY AND COMPARING THEORY WITH EXPERIMENT THE BOOK IS DIVIDED INTO THREE PARTS PART I COVERS SUBJECTS OF WIDE RELEVANCE TO MODELLING AND PLANT BIOLOGY PART II THE READER MAY CHOOSE TO SELECT TOPICS OF PARTICULAR INTEREST FROM PART II HOWEVER THE WHOLE PLANT MODELLER WILL NEED TO STUDY ALL CHAPTERS AND THE PLANT ECOSYSTEM MODELLER MAY NEED TO ADD OTHER MATERIAL ALSO PART III PLANT MORPHOLOGY IS AT AN INTRODUCTORY LEVEL IT IS INCLUDED BECAUSE MORPHOLOGICAL CHARACTERS MAY PROVE TO BE OF EQUAL IMPORTANCE TO SOME PHYSIOLOGICAL TRAITS IN DETERMINING PLANT FUNCTION AND PERFORMANCE THIS TEXTBOOK PRESENTS IN AN INTERESTING AND CLEARLY WRITTEN FASHION A MATHEMATICAL

APPROACH TO A WIDE RANGE OF TOPICS IN PLANT AND CROP PHYSIOLOGY INCLUDING LIGHT INTERCEPTION LEAF AND CANOPY PHOTOSYNTHESIS RESPIRATION PARTITIONING TRANSPIRATION AND WATER RELATIONS BRANCHING AND PHYLLOTAXIS THE BIOCHEMISTRY OF PLANT GROWTH AND MAINTENANACE IS ALSO PRESENTED IN SOME DETAIL I WAS VERY PLEASED WITH THE TEXT ESPECIALLY WITH THE PHILOSOPHY PRESENTED BY THE AUTHORS THAT BIOLOGICAL MODELS ARE NECESSARILY SIMPLIFICATIONS OF COMPLEX DETAIL I WOULD STRONGLY RECOMMEND IT FOR READING AND CONSULTATION BY GRADUATES AND RESEARCH WORKERS J EXP BOTANY THE AUTHORS APPROACH SUCCEEDS ADMIRABLY GIVING A THOROUGH ACCOUNT OF THE MATHEMATICAL TOOLBOX AVAILABLE TO RESEARCHERS AND THE AREAS IN WHICH THOSE TOOLS HAVE BEEN USED PLANT CELL AND ENVIRONMENT COMBINING CONSIDERABLE TECHNICAL CLEVERNESS WITH CREATIVITY AND THE REFRESHING NOTION THAT SCIENCE IS A COMMON SENSE UNPREDICTABLE FASCINATING AND THOROUGHLY HUMAN ACTIVITY TIMES HIGHER EDUCATIONAL SUPPLEMENT EXCEPTIONALLY SCHOLARLY VOLUME LOGICAL AND SYSTEMATIC AUTHORS HAVE ASSEMBLED A MASS OF MATHEMATICAL MATERIAL IN AN ELEGANT LAYOUT AGRICULTURAL SYSTEMS

TOWARDS A SYSTEM THEORY OF THE MIND

2012-04-17

MONOALPHABETIC CIPHERS USING DIRECT STANDARD ALPHABETS GENERAL MONOALPHABETIC SUBSTITUTION POLYALPHABETIC SUBSTITUTION POLYGRAPHIC SYSTEMS TRANSPOSITION TABLE OF DIGRAPHIC FREQUENCIES LOG WEIGHTS FREQUENCIES OF LETTERS OF THE ALPHABET FREQUENCIES OF INITIAL LETTERS OF WORDS FREQUENCIES OF FINAL LETTERS OF WORDS INDEX

Quantitative Business Valuation

2010-02-25

FOR MORE THAN TWO THOUSAND YEARS A FAMILIARITY WITH MATHEMATICS HAS BEEN REGARDED AS AN INDISPENSABLE PART OF THE INTELLECTUAL EQUIPMENT OF EVERY CULTURED PERSON TODAY UNFORTUNATELY THE TRADITIONAL PLACE OF MATHEMATICS IN EDUCATION IS IN GRAVE DANGER THE TEACHING AND LEARNING OF MATHEMATICS HAS DEGENERATED INTO THE REALM OF ROTE MEMORIZATION THE OUTCOME OF WHICH LEADS TO SATISFACTORY FORMAL ABILITY BUT DOES NOT LEAD TO REAL UNDERSTANDING OR TO GREATER INTELLECTUAL INDEPENDENCE THIS NEW EDITION OF RICHARD COURANT S AND HERBERT ROBBINS S CLASSIC WORK SEEKS TO ADDRESS THIS PROBLEM ITS GOAL IS TO PUT THE MEANING BACK INTO MATHEMATICS WRITTEN FOR BEGINNERS AND SCHOLARS FOR STUDENTS AND TEACHERS FOR PHILOSOPHERS AND ENGINEERS WHAT IS MATHEMATICS SECOND EDITION IS A SPARKLING COLLECTION OF MATHEMATICAL GEMS THAT OFFERS AN ENTERTAINING AND ACCESSIBLE PORTRAIT OF THE MATHEMATICAL WORLD COVERING EVERYTHING FROM NATURAL NUMBERS AND THE NUMBER SYSTEM TO GEOMETRICAL CONSTRUCTIONS AND PROJECTIVE GEOMETRY FROM TOPOLOGY AND CALCULUS TO MATTERS OF PRINCIPLE AND THE CONTINUUM HYPOTHESIS THIS FASCINATING SURVEY ALLOWS READERS TO DELVE INTO MATHEMATICS AS AN ORGANIC WHOLE RATHER THAN AN EMPTY DRILL IN PROBLEM SOLVING WITH CHAPTERS LARGELY INDEPENDENT OF ONE ANOTHER AND SECTIONS THAT LEAD UPWARD FROM BASIC TO MORE ADVANCED DISCUSSIONS READERS CAN EASILY PICK AND CHOOSE AREAS OF PARTICULAR INTEREST WITHOUT IMPAIRING THEIR UNDERSTANDING OF SUBSEQUENT PARTS BROUGHT UP TO DATE WITH A NEW CHAPTER BY IAN STEWART WHAT IS MATHEMATICS SECOND EDITION OFFERS NEW INSIGHTS INTO RECENT MATHEMATICAL DEVELOPMENTS AND DESCRIBES PROOFS OF THE FOUR COLOR THEOREM AND FERMAT S LAST THEOREM PROBLEMS THAT WERE STILL OPEN WHEN COURANT AND ROBBINS WROTE THIS MASTERPIECE BUT ONES THAT HAVE SINCE BEEN SOLVED FORMAL MATHEMATICS IS LIKE SPELLING AND GRAMMAR A MATTER OF THE

CORRECT APPLICATION OF LOCAL RULES MEANINGFUL MATHEMATICS IS LIKE JOURNALISM IT TELLS AN INTERESTING STORY BUT UNLIKE SOME JOURNALISM THE STORY HAS TO BE TRUE THE BEST MATHEMATICS IS LIKE LITERATURE IT BRINGS A STORY TO LIFE BEFORE YOUR EYES AND INVOLVES YOU IN IT INTELLECTUALLY AND EMOTIONALLY WHAT IS MATHEMATICS IS LIKE A FINE PIECE OF LITERATURE IT OPENS A WINDOW ONTO THE WORLD OF MATHEMATICS FOR ANYONE INTERESTED TO VIEW

Life Size

1971

THIS IS THE FIRST BOOK TO FOCUS ON THE PROBLEM OF ENSURING THE CORRECTNESS OF FLOATING POINT HARDWARE DESIGNS THROUGH MATHEMATICAL METHODS FORMAL VERIFICATION OF FLOATING POINT HARDWARE DESIGN ADVANCES A VERIFICATION METHODOLOGY BASED ON A UNIFIED THEORY OF REGISTER TRANSFER LOGIC AND FLOATING POINT ARITHMETIC THAT HAS BEEN DEVELOPED AND APPLIED TO THE FORMAL VERIFICATION OF COMMERCIAL FLOATING POINT UNITS OVER THE COURSE OF MORE THAN TWO DECADES DURING WHICH THE AUTHOR WAS EMPLOYED BY SEVERAL MAJOR MICROPROCESSOR DESIGN COMPANIES THE BOOK CONSISTS OF FIVE PARTS THE FIRST TWO OF WHICH PRESENT A RIGOROUS EXPOSITION OF THE GENERAL THEORY BASED ON THE FIRST PRINCIPLES OF ARITHMETIC PART I COVERS BIT VECTORS AND THE BIT MANIPULATION PRIMITIVES INTEGER AND FIXED POINT ENCODINGS AND BIT WISE LOGICAL OPERATIONS PART II ADDRESSES THE PROPERTIES OF FLOATING POINT NUMBERS THE FORMATS IN WHICH THEY ARE ENCODED AS BIT VECTORS AND THE VARIOUS MODES OF FLOATING POINT ROUNDING IN PART III THE THEORY IS EXTENDED TO THE ANALYSIS OF SEVERAL ALGORITHMS AND OPTIMIZATION TECHNIQUES THAT ARE COMMONLY USED IN COMMERCIAL IMPLEMENTATIONS OF ELEMENTARY ARITHMETIC OPERATIONS AS A BASIS FOR THE FORMAL VERIFICATION OF SUCH IMPLEMENTATIONS PART IV CONTAINS HIGH LEVEL SPECIFICATIONS OF CORRECTNESS OF THE BASIC

ARITHMETIC INSTRUCTIONS OF SEVERAL MAJOR INDUSTRY STANDARD FLOATING POINT ARCHITECTURES INCLUDING ALL DETAILS PERTAINING TO THE HANDLING OF EXCEPTIONAL CONDITIONS PART V ILLUSTRATES THE METHODOLOGY APPLYING THE PRECEDING THEORY TO THE COMPREHENSIVE VERIFICATION OF A STATE OF THE ART COMMERCIAL FLOATING POINT UNIT ALL OF THESE RESULTS HAVE BEEN FORMALIZED IN THE LOGIC OF THE ACL2 THEOREM PROVER AND MECHANICALLY CHECKED TO ENSURE THEIR CORRECTNESS THEY ARE PRESENTED HERE HOWEVER IN SIMPLE CONVENTIONAL MATHEMATICAL NOTATION THE BOOK PRESUPPOSES NO FAMILIARITY WITH ACL2 LOGIC DESIGN OR ANY MATHEMATICS BEYOND BASIC HIGH SCHOOL ALGEBRA IT WILL BE OF INTEREST TO VERIFICATION ENGINEERS AS WELL AS ARITHMETIC CIRCUIT DESIGNERS WHO APPRECIATE THE VALUE OF A RIGOROUS APPROACH TO THEIR ART AND IS SUITABLE AS A GRADUATE TEXT IN COMPUTER ARITHMETIC

Pro Deep Learning with TensorFlow

2017-12-06

CALCULATING THE POWER OF TSUNAMIS AND HURRICANES IS OF GREAT IMPORTANCE TO ENGINEERS AND METEOROLOGISTS AS WELL AS GOVERNMENTS AND INSURANCE COMPANIES THIS BOOK PRESENTS NEW RESEARCH ON THE MATHEMATICAL DESCRIPTION OF TSUNAMIS AND HURRICANES

A Logical Approach to Discrete Math

2013-03-14

Mathematical Approach to Puzzle Solving

2016-08-05

Ptolemy's Mathematical Approach [microform] : Applied Mathematics in the Second Century

2004

Plant and Crop Modelling

2000

Elementary Cryptanalysis

1966

What Is Mathematics?

1996-07-18

Macro-economic Theory

2002

Formal Verification of Floating-Point Hardware Design

2019-11-05

Tsunamis and Hurricanes

2006-11-06

WAVES

1977

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