

# Computer Engineering Ebooks

EVENTUALLY, YOU WILL NO QUESTION DISCOVER A NEW EXPERIENCE AND FEAT BY SPENDING MORE CASH. STILL WHEN? REACH YOU AGREE TO THAT YOU REQUIRE TO ACQUIRE THOSE EVERY NEEDS IN THE SAME WAY AS HAVING SIGNIFICANTLY CASH? WHY DONT YOU TRY TO ACQUIRE SOMETHING BASIC IN THE BEGINNING? THATS SOMETHING THAT WILL LEAD YOU TO COMPREHEND EVEN MORE ON THE ORDER OF THE GLOBE, EXPERIENCE, SOME PLACES, PAST HISTORY, AMUSEMENT, AND A LOT MORE?

IT IS YOUR UTTERLY OWN GET OLDER TO ACTION REVIEWING HABIT. IN THE MIDDLE OF GUIDES YOU COULD ENJOY NOW IS **COMPUTER ENGINEERING EBOOKS** BELOW.

**THE ENGINEERING HANDBOOK** RICHARD C. DORF 2018-10-03 FIRST PUBLISHED IN 1995, THE ENGINEERING HANDBOOK QUICKLY BECAME THE DEFINITIVE ENGINEERING REFERENCE. ALTHOUGH IT REMAINS A BESTSELLER, THE MANY ADVANCES REALIZED IN TRADITIONAL ENGINEERING FIELDS ALONG WITH THE EMERGENCE AND RAPID GROWTH OF FIELDS SUCH AS BIOMEDICAL ENGINEERING, COMPUTER ENGINEERING, AND NANOTECHNOLOGY MEAN THAT THE TIME HAS COME TO BRING THIS STANDARD-SETTING REFERENCE UP TO DATE. NEW IN THE SECOND EDITION 19 COMPLETELY NEW CHAPTERS ADDRESSING IMPORTANT TOPICS IN BIOINSTRUMENTATION, CONTROL SYSTEMS, NANOTECHNOLOGY, IMAGE AND SIGNAL PROCESSING, ELECTRONICS, ENVIRONMENTAL SYSTEMS, STRUCTURAL SYSTEMS 131 CHAPTERS FULLY REVISED AND UPDATED EXPANDED LISTS OF ENGINEERING ASSOCIATIONS AND SOCIETIES THE ENGINEERING HANDBOOK, SECOND EDITION IS DESIGNED TO ENLIGHTEN EXPERTS IN AREAS OUTSIDE THEIR OWN SPECIALTIES, TO REFRESH THE KNOWLEDGE OF MATURE PRACTITIONERS, AND TO EDUCATE ENGINEERING NOVICES. WHETHER YOU WORK IN INDUSTRY, GOVERNMENT, OR ACADEMIA, THIS IS SIMPLY THE BEST, MOST USEFUL ENGINEERING REFERENCE YOU CAN HAVE IN YOUR PERSONAL, OFFICE, OR INSTITUTIONAL LIBRARY.

**PROGRAMMING FOR ELECTRICAL ENGINEERS** JAMES C. SQUIRE 2020-07-08 PROGRAMMING FOR ELECTRICAL ENGINEERS: MATLAB AND SPICE INTRODUCES BEGINNING ENGINEERING STUDENTS TO PROGRAMMING IN MATLAB AND SPICE THROUGH ENGAGED, PROBLEM-BASED LEARNING AND DEDICATED ELECTRICAL AND COMPUTER ENGINEERING CONTENT. THE BOOK DRAWS ITS PROBLEMS AND EXAMPLES SPECIFICALLY FROM ELECTRICAL AND COMPUTER ENGINEERING, COVERING SUCH TOPICS AS CIRCUIT ANALYSIS, SIGNAL PROCESSING, AND FILTER DESIGN. IT TEACHES RELEVANT COMPUTATIONAL TECHNIQUES IN THE CONTEXT OF SOLVING COMMON PROBLEMS IN ELECTRICAL AND COMPUTER ENGINEERING, INCLUDING MESH AND NODAL ANALYSIS, FOURIER TRANSFORMS, AND PHASOR ANALYSIS. PROGRAMMING FOR ELECTRICAL ENGINEERS: MATLAB AND SPICE IS UNIQUE AMONG MATLAB TEXTBOOKS FOR ITS DUAL FOCUS ON INTRODUCTORY-LEVEL LEARNING AND DISCIPLINE-SPECIFIC CONTENT IN ELECTRICAL AND COMPUTER ENGINEERING. NO OTHER TEXTBOOK ON THE MARKET CURRENTLY TARGETS THIS AUDIENCE WITH THE SAME ATTENTION TO DISCIPLINE-SPECIFIC CONTENT AND ENGAGED LEARNING PRACTICES. ALTHOUGH IT IS PRIMARILY AN INTRODUCTION TO PROGRAMMING IN MATLAB, THE BOOK ALSO HAS A CHAPTER ON CIRCUIT SIMULATION USING SPICE, AND IT INCLUDES MATERIALS REQUIRED BY ABET ACCREDITATION REVIEWS, SUCH AS INFORMATION ON ETHICS, PROFESSIONAL DEVELOPMENT, AND LIFELONG LEARNING. DISCIPLINE-SPECIFIC: INTRODUCES ELECTRICAL AND COMPUTER ENGINEERING-SPECIFIC TOPICS, SUCH AS PHASOR ANALYSIS AND COMPLEX EXPONENTIALS, THAT ARE NOT COVERED IN GENERIC ENGINEERING MATLAB TEXTS ACCESSIBLE: PEDAGOGICALLY APPROPRIATE FOR FRESHMEN AND SOPHOMORES WITH LITTLE OR NO PRIOR PROGRAMMING EXPERIENCE SCAFFOLDED CONTENT: ADDRESSES BOTH SCRIPT AND FUNCTIONS BUT EMPHASIZES THE USE OF FUNCTIONS SINCE SCRIPTS WITH NON-SCOPED VARIABLES ARE LESS-COMMONLY ENCOUNTERED AFTER INTRODUCTORY COURSES PROBLEM-CENTRIC: INTRODUCES MATLAB COMMANDS AS NEEDED TO SOLVE PROGRESSIVELY MORE COMPLEX EE/ECE-SPECIFIC PROBLEMS, AND INCLUDES OVER 100 EMBEDDED, IN-CHAPTER QUESTIONS TO CHECK COMPREHENSION IN STAGES AND SUPPORT ACTIVE LEARNING EXERCISES IN THE CLASSROOM ENRICHMENT CALLOUTS: "PRO TIP" CALLOUTS COVER COMMON ABET TOPICS, SUCH AS ETHICS AND PROFESSIONAL DEVELOPMENT, AND "DIGGING DEEPER" CALLOUTS PROVIDE OPTIONAL, MORE DETAILED MATERIAL FOR INTERESTED STUDENTS

**COMPUTER SYSTEMS ENGINEERING MANAGEMENT** ROBERT S. ALFORD 2018-01-18 COMPUTER SYSTEMS ENGINEERING MANAGEMENT PROVIDES A SUPERB GUIDE TO THE OVERALL EFFORT OF COMPUTER SYSTEMS BRIDGE BUILDING. IT EXPLAINS WHAT TO DO BEFORE YOU GET TO THE RIVER, HOW TO ORGANISE YOUR WORK FORCE, HOW TO MANAGE THE CONSTRUCTION, AND WHAT DO WHEN YOU FINALLY REACH THE OPPOSITE SHORE. IT DELINEATES PRACTICAL APPROACHES TO REAL-WORLD DEVELOPMENT ISSUES AND PROBLEMS PRESENTS MANY EXAMPLES AND CASE HISTORIES AND EXPLAINS TECHNIQUES THAT APPLY TO EVERYTHING FROM MICROPROCESSORS TO MAINFRAMES AND FROM PERSON COMPUTER APPLICATIONS TO EXTREMELY SOPHISTICATED SYSTEMS

**EMERGING ARTIFICIAL INTELLIGENCE APPLICATIONS IN COMPUTER ENGINEERING** ILIAS G. MAGLOGIANNIS 2007 "THE EVER EXPANDING ABUNDANCE OF INFORMATION AND COMPUTING POWER ENABLES RESEARCHERS AND USERS TO TACKLE HIGHLY INTERESTING ISSUES FOR THE FIRST TIME, SUCH AS APPLICATIONS PROVIDING PERSONALIZED ACCESS AND INTERACTIVITY TO MULTIMODAL INFORMATION BASED ON USER PREFERENCES AND SEMANTIC CONCEPTS OR HUMAN-MACHINE INTERFACE SYSTEMS UTILIZING INFORMATION ON THE AFFECTIVE STATE OF THE USER. THE PURPOSE OF THIS BOOK IS TO PROVIDE INSIGHTS ON HOW TODAY'S COMPUTER ENGINEERS CAN IMPLEMENT AI IN REAL WORLD APPLICATIONS. OVERALL, THE FIELD OF ARTIFICIAL INTELLIGENCE IS EXTREMELY BROAD. IN ESSENCE, AI HAS FOUND APPLICATIONS, IN ONE WAY OR ANOTHER, IN EVERY ASPECT OF COMPUTING AND IN MOST ASPECTS OF MODERN LIFE. CONSEQUENTLY, IT IS NOT POSSIBLE TO PROVIDE A COMPLETE REVIEW OF THE FIELD IN THE FRAMEWORK OF A SINGLE BOOK, UNLESS IF THE REVIEW IS BROAD RATHER THAN DEEP. IN THIS BOOK WE HAVE CHOSEN TO PRESENT SELECTED CURRENT AND EMERGING PRACTICAL APPLICATIONS OF AI, THUS ALLOWING FOR A MORE DETAILED PRESENTATION OF TOPICS. THE BOOK IS ORGANIZED IN FOUR PARTS; GENERAL PURPOSE APPLICATIONS OF AI; INTELLIGENT HUMAN-COMPUTER INTERACTION; INTELLIGENT APPLICATIONS IN SIGNAL PROCESSING AND EHEALTH; AND REAL WORLD AI APPLICATIONS IN COMPUTER ENGINEERING."

**ELECTRICAL, CONTROL ENGINEERING AND COMPUTER SCIENCE** LIU JIAN 2015-12-30 ELECTRICAL, CONTROL ENGINEERING AND COMPUTER SCIENCE INCLUDES THE PAPERS FROM ECCECS2015 (HONG KONG, 30-31 MAY 2015), WHICH WAS ORGANIZED BY THE AMERICAN SOCIETY OF SCIENCE AND ENGINEERING (ASEE), A NON-PROFIT SOCIETY FOR ENGINEERS AND SCIENTISTS. PRESENTING NEW THEORIES, IDEAS, TECHNIQUES AND EXPERIENCES RELATED TO ALL ASPECTS OF ELECTRICAL ENGINEERING

**COMPUTER VISION AND ACTION RECOGNITION** MD. ATIQU RAHMAN AHAD 2011-12-02 HUMAN ACTION ANALYSES AND RECOGNITION ARE CHALLENGING PROBLEMS DUE TO LARGE VARIATIONS IN HUMAN MOTION AND APPEARANCE, CAMERA VIEWPOINT AND ENVIRONMENT SETTINGS. THE FIELD OF ACTION AND ACTIVITY REPRESENTATION AND RECOGNITION IS RELATIVELY OLD, YET NOT WELL-UNDERSTOOD BY THE STUDENTS AND RESEARCH COMMUNITY. SOME IMPORTANT BUT COMMON MOTION RECOGNITION PROBLEMS ARE EVEN NOW UNSOLVED PROPERLY BY THE COMPUTER VISION COMMUNITY. HOWEVER, IN THE LAST DECADE, A NUMBER OF GOOD APPROACHES ARE PROPOSED AND EVALUATED SUBSEQUENTLY BY MANY RESEARCHERS. AMONG THOSE METHODS, SOME METHODS GET SIGNIFICANT ATTENTION FROM MANY RESEARCHERS IN THE COMPUTER VISION FIELD DUE TO THEIR BETTER ROBUSTNESS AND PERFORMANCE. THIS BOOK WILL COVER GAP OF INFORMATION AND MATERIALS ON COMPREHENSIVE OUTLOOK - THROUGH VARIOUS STRATEGIES FROM THE SCRATCH TO THE STATE-OF-THE-ART ON COMPUTER VISION REGARDING ACTION RECOGNITION APPROACHES. THIS BOOK WILL TARGET THE STUDENTS AND RESEARCHERS WHO HAVE KNOWLEDGE ON IMAGE PROCESSING AT A BASIC LEVEL AND WOULD LIKE TO EXPLORE MORE ON THIS AREA AND DO RESEARCH. THE STEP BY STEP METHODOLOGIES WILL ENCOURAGE ONE TO MOVE FORWARD FOR A COMPREHENSIVE KNOWLEDGE ON COMPUTER VISION FOR RECOGNIZING VARIOUS HUMAN ACTIONS.

**REAL-WORLD SOFTWARE PROJECTS FOR COMPUTER SCIENCE AND ENGINEERING STUDENTS** VARUN GUPTA 2021-02-24 DEVELOPING PROJECTS OUTSIDE OF A CLASSROOM SETTING CAN BE INTIMIDATING FOR STUDENTS AND IS NOT ALWAYS A SEAMLESS PROCESS. REAL-WORLD SOFTWARE PROJECTS FOR COMPUTER SCIENCE AND ENGINEERING STUDENTS IS A QUICK, EASY SOURCE FOR TACKLING SUCH ISSUES. FILLING A CRITICAL GAP IN THE RESEARCH LITERATURE, THE BOOK: IS IDEAL FOR ACADEMIC PROJECT SUPERVISORS. HELPS RESEARCHERS CONDUCT INTERDISCIPLINARY RESEARCH. GUIDES COMPUTER SCIENCE STUDENTS ON UNDERTAKING AND IMPLEMENTING RESEARCH-BASED PROJECTS THIS BOOK EXPLAINS HOW TO DEVELOP HIGHLY COMPLEX, INDUSTRY-SPECIFIC PROJECTS TOUCHING ON REAL-WORLD COMPLEXITIES OF SOFTWARE DEVELOPMENTS. IT SHOWS HOW TO DEVELOP PROJECTS FOR STUDENTS WHO HAVE NOT YET HAD THE CHANCE TO GAIN REAL-WORLD EXPERIENCE, PROVIDING OPPORTUNITY TO BECOME FAMILIAR WITH THE SKILLS NEEDED TO IMPLEMENT PROJECTS USING STANDARD DEVELOPMENT METHODOLOGIES. THE BOOK IS ALSO A GREAT SOURCE FOR TEACHERS OF UNDERGRADUATE STUDENTS IN SOFTWARE ENGINEERING AND COMPUTER SCIENCE AS IT CAN HELP STUDENTS PREPARE FOR THE RISK AND UNCERTAINTY THAT IS TYPICAL OF SOFTWARE DEVELOPMENT IN INDUSTRIAL SETTINGS.

**BASIC COMPUTER ENGINEERING** PRECISE WILEY. 2012-10

**SOFTWARE PROCESS QUALITY** RON S. KENETT 1999-01-22 USING ACTUAL EXAMPLES OF SOFTWARE PROCESS IMPROVEMENT FROM THE PRIVATE SECTOR AND GOVERNMENT, THIS WORK DEMONSTRATES HOW QUALITY SYSTEMS, MEASUREMENT TECHNIQUES AND PERFORMANCE EVALUATIONS WORK. IT PRESENTS A METHODOLOGY FOR ANALYZING AN ONGOING SOFTWARE DEVELOPMENT PROCESS AND ESTABLISHING A RATIONAL PLAN FOR PROCESS IMPROVEMENT.

**COMPUTER APPLICATIONS IN ENGINEERING AND MANAGEMENT** PARVEEN BERWAL 2022-04-08 THE BOOK COMPUTER APPLICATIONS IN ENGINEERING AND MANAGEMENT IS ABOUT COMPUTER APPLICATIONS IN MANAGEMENT, ELECTRICAL ENGINEERING, ELECTRONICS ENGINEERING, AND CIVIL ENGINEERING. IT COVERS THE SOFTWARE TOOLS FOR OFFICE AUTOMATION, INTRODUCES THE BASIC CONCEPTS OF DATABASE MANAGEMENT, AND PROVIDES AN OVERVIEW ABOUT THE CONCEPTS OF DATA COMMUNICATION, INTERNET, AND E-COMMERCE. ADDITIONALLY, THE BOOK EXPLAINS THE PRINCIPLES OF COMPUTING MANAGEMENT USED IN CONSTRUCTION OF BUILDINGS IN CIVIL ENGINEERING AND THE ROLE OF COMPUTERS IN POWER GRID AUTOMATION IN ELECTRONICS ENGINEERING. FEATURES PROVIDES AN INSIGHT TO PROSPECTIVE RESEARCH AND APPLICATION AREAS RELATED TO INDUSTRY AND TECHNOLOGY INCLUDES INDUSTRY-BASED INPUTS PROVIDES A HANDS-ON APPROACH FOR READERS OF THE BOOK TO PRACTICE AND ASSIMILATE LEARNING THIS BOOK IS PRIMARILY AIMED AT UNDERGRADUATES AND GRADUATES IN COMPUTER SCIENCE, INFORMATION TECHNOLOGY, CIVIL ENGINEERING, ELECTRONICS AND ELECTRICAL ENGINEERING, MANAGEMENT, ACADEMICIANS, AND RESEARCH SCHOLARS.

**DICTIONARY OF COMPUTER SCIENCE, ENGINEERING AND TECHNOLOGY** PHILIP A. LAPLANTE 2017-12-19 A COMPLETE LEXICON OF TECHNICAL INFORMATION, THE DICTIONARY OF COMPUTER SCIENCE, ENGINEERING, AND TECHNOLOGY PROVIDES WORKABLE DEFINITIONS, PRACTICAL INFORMATION, AND ENHANCES GENERAL COMPUTER SCIENCE AND ENGINEERING LITERACY. IT SPANS VARIOUS DISCIPLINES AND INDUSTRY SECTORS SUCH AS: TELECOMMUNICATIONS, INFORMATION THEORY, AND SOFTWARE AND HARDWARE SYSTEMS. IF YOU WORK WITH, OR WRITE ABOUT COMPUTERS, THIS DICTIONARY IS THE SINGLE MOST IMPORTANT RESOURCE YOU CAN PUT ON YOUR SHELF. THE DICTIONARY ADDRESSES ALL ASPECTS OF COMPUTING AND COMPUTER TECHNOLOGY FROM MULTIPLE PERSPECTIVES, INCLUDING THE ACADEMIC, APPLIED, AND PROFESSIONAL VANTAGE POINTS. INCLUDING MORE THAN 8,000 TERMS, IT COVERS ALL MAJOR TOPICS FROM ARTIFICIAL INTELLIGENCE TO PROGRAMMING LANGUAGES, FROM SOFTWARE ENGINEERING TO OPERATING SYSTEMS, AND FROM DATABASE MANAGEMENT TO PRIVACY ISSUES. THE DEFINITIONS PROVIDED ARE DETAILED RATHER THAN CONCISE. WRITTEN BY AN INTERNATIONAL TEAM OF OVER 80 CONTRIBUTORS, THIS IS THE MOST COMPREHENSIVE AND EASY-TO-READ REFERENCE OF ITS KIND. IF YOU NEED TO KNOW THE DEFINITION OF ANYTHING RELATED TO COMPUTERS YOU WILL FIND IT IN THE DICTIONARY OF COMPUTER SCIENCE, ENGINEERING, AND TECHNOLOGY.

**ENGINEERING DOCUMENTATION FOR CAD/CAM APPLICATIONS** CHARLES S. KNOX 2020-08-14 THIS BOOK EMPHASIZES THE IMPORTANCE OF CONSISTENT, WELL-PLANNED, AND COMPUTER-ORIENTED ENGINEERING DOCUMENTATION SYSTEMS TO ENGINEERING, MANUFACTURING, AND ACCOUNTING. IT DISCUSSES THE SYSTEMS NEEDED TO OPTIMIZE FLOW OF INFORMATION AND INCREASE THE EFFICIENCY OF MODERN CAD/CAM SYSTEMS.

**THE INTERNET BOOK** DOUGLAS E. COMER 2018-09-03 THE INTERNET BOOK, FIFTH EDITION EXPLAINS HOW COMPUTERS COMMUNICATE, WHAT THE INTERNET IS, HOW THE INTERNET WORKS, AND WHAT SERVICES THE INTERNET OFFERS. IT IS DESIGNED FOR READERS WHO DO NOT HAVE A STRONG TECHNICAL BACKGROUND — EARLY CHAPTERS CLEARLY EXPLAIN THE TERMINOLOGY AND CONCEPTS NEEDED TO UNDERSTAND ALL THE SERVICES. IT HELPS THE READER TO UNDERSTAND THE TECHNOLOGY BEHIND THE INTERNET, APPRECIATE HOW THE INTERNET CAN BE USED, AND DISCOVER WHY PEOPLE FIND IT SO EXCITING. IN ADDITION, IT EXPLAINS THE ORIGINS OF THE INTERNET AND SHOWS THE READER HOW RAPIDLY IT HAS GROWN. IT ALSO PROVIDES INFORMATION ON HOW TO AVOID SCAMS AND EXAGGERATED MARKETING CLAIMS. THE FIRST SECTION OF THE BOOK INTRODUCES COMMUNICATION SYSTEM CONCEPTS AND TERMINOLOGY. THE SECOND SECTION REVIEWS THE HISTORY OF THE INTERNET AND ITS INCREDIBLE GROWTH. IT DOCUMENTS THE RATE AT WHICH THE DIGITAL REVOLUTION OCCURRED, AND PROVIDES BACKGROUND THAT WILL HELP READERS APPRECIATE THE SIGNIFICANCE OF

THE UNDERLYING DESIGN. THE THIRD SECTION DESCRIBES BASIC INTERNET TECHNOLOGY AND CAPABILITIES. IT EXAMINES HOW INTERNET HARDWARE IS ORGANIZED AND HOW SOFTWARE PROVIDES COMMUNICATION. THIS SECTION PROVIDES THE FOUNDATION FOR LATER CHAPTERS, AND WILL HELP READERS ASK GOOD QUESTIONS AND MAKE BETTER DECISIONS WHEN SALESPEOPLE OFFER INTERNET PRODUCTS AND SERVICES. THE FINAL SECTION DESCRIBES APPLICATION SERVICES CURRENTLY AVAILABLE ON THE INTERNET. FOR EACH SERVICE, THE BOOK EXPLAINS BOTH WHAT THE SERVICE OFFERS AND HOW THE SERVICE WORKS. ABOUT THE AUTHOR DR. DOUGLAS COMER IS A DISTINGUISHED PROFESSOR AT PURDUE UNIVERSITY IN THE DEPARTMENTS OF COMPUTER SCIENCE AND ELECTRICAL AND COMPUTER ENGINEERING. HE HAS CREATED AND ENJOYS TEACHING UNDERGRADUATE AND GRADUATE COURSES ON COMPUTER NETWORKS AND INTERNETS, OPERATING SYSTEMS, COMPUTER ARCHITECTURE, AND COMPUTER SOFTWARE. ONE OF THE RESEARCHERS WHO CONTRIBUTED TO THE INTERNET AS IT WAS BEING FORMED IN THE LATE 1970S AND 1980S, HE HAS SERVED AS A MEMBER OF THE INTERNET ARCHITECTURE BOARD, THE GROUP RESPONSIBLE FOR GUIDING THE INTERNET'S DEVELOPMENT. PROF. COMER IS AN INTERNATIONALLY RECOGNIZED EXPERT ON COMPUTER NETWORKING, THE TCP/IP PROTOCOLS, AND THE INTERNET, WHO PRESENTS LECTURES TO A WIDE RANGE OF AUDIENCES. IN ADDITION TO RESEARCH ARTICLES, HE HAS WRITTEN A SERIES OF TEXTBOOKS THAT DESCRIBE THE TECHNICAL DETAILS OF THE INTERNET. PROF. COMER'S BOOKS HAVE BEEN TRANSLATED INTO MANY LANGUAGES, AND ARE USED IN INDUSTRY AS WELL AS COMPUTER SCIENCE, ENGINEERING, AND BUSINESS DEPARTMENTS AROUND THE WORLD. PROF. COMER JOINED THE INTERNET PROJECT IN THE LATE 1970S, AND HAS HAD A HIGH-SPEED INTERNET CONNECTION TO HIS HOME SINCE 1981. HE WROTE THIS BOOK AS A RESPONSE TO EVERYONE WHO HAS ASKED HIM FOR AN EXPLANATION OF THE INTERNET THAT IS BOTH TECHNICALLY CORRECT AND EASILY UNDERSTOOD BY ANYONE. AN INTERNET ENTHUSIAST, COMER DISPLAYS INTRNET ON THE LICENSE PLATE OF HIS CAR.

**INTELLIGENT SYSTEMS FOR ENGINEERS AND SCIENTISTS** ADRIAN A. HOPGOOD 2016-04-19 THE THIRD EDITION OF THIS BESTSELLER EXAMINES THE PRINCIPLES OF ARTIFICIAL INTELLIGENCE AND THEIR APPLICATION TO ENGINEERING AND SCIENCE, AS WELL AS TECHNIQUES FOR DEVELOPING INTELLIGENT SYSTEMS TO SOLVE PRACTICAL PROBLEMS. COVERING THE FULL SPECTRUM OF INTELLIGENT SYSTEMS TECHNIQUES, IT INCORPORATES KNOWLEDGE-BASED SYSTEMS, COMPUTATIONAL INTELLIGENCE

**24TH EUROPEAN SYMPOSIUM ON COMPUTER AIDED PROCESS ENGINEERING** 2014-06-20 THE 24TH EUROPEAN SYMPOSIUM ON COMPUTER AIDED PROCESS ENGINEERING CREATES AN INTERNATIONAL FORUM WHERE SCIENTIFIC AND INDUSTRIAL CONTRIBUTIONS OF COMPUTER-AIDED TECHNIQUES ARE PRESENTED WITH APPLICATIONS IN PROCESS MODELING AND SIMULATION, PROCESS SYNTHESIS AND DESIGN, OPERATION, AND PROCESS OPTIMIZATION. THE ORGANIZERS HAVE BROADENED THE BOUNDARIES OF PROCESS SYSTEMS ENGINEERING BY INVITING CONTRIBUTIONS AT DIFFERENT SCALES OF MODELING AND DEMONSTRATING VERTICAL AND HORIZONTAL INTEGRATION. CONTRIBUTIONS RANGE FROM APPLICATIONS AT THE MOLECULAR LEVEL TO THE STRATEGIC LEVEL OF THE SUPPLY CHAIN AND SUSTAINABLE DEVELOPMENT. THEY COVER MAJOR CLASSICAL THEMES, AT THE SAME TIME EXPLORING A NEW RANGE OF APPLICATIONS THAT ADDRESS THE PRODUCTION OF RENEWABLE FORMS OF ENERGY, ENVIRONMENTAL FOOTPRINTS AND SUSTAINABLE USE OF RESOURCES AND WATER.

**WHAT EVERY ENGINEER SHOULD KNOW ABOUT COMPUTER MODELING AND SIMULATION** DON M. INGELS 2021-06-30 THIS BOOK PRESENTS A BRIEF DESCRIPTION OF WHAT CONSTITUTES COMPUTER MODELING AND SIMULATION WITH TECHNIQUES GIVEN TO GET A FEEL FOR HOW SOME OF THE SIMULATION SOFTWARE PACKAGES INVOLVING HUNDREDS OF THOUSANDS OF LINES OF CODE WERE DEVELOPED.

**REAL-TIME RENDERING** GABRIYEL WONG 2017-12-19 CONSUMERS TODAY EXPECT EXTREMELY REALISTIC IMAGERY GENERATED IN REAL TIME FOR INTERACTIVE APPLICATIONS SUCH AS COMPUTER GAMES, VIRTUAL PROTOTYPING, AND SCIENTIFIC VISUALISATION. HOWEVER, THE INCREASING DEMANDS FOR FIDELITY COUPLED WITH RAPID ADVANCES IN HARDWARE ARCHITECTURE POSE A CHALLENGE: HOW DO YOU FIND OPTIMAL, SUSTAINABLE SOLUTIONS TO ACCOMMODATE BOTH SPEED OF RENDERING AND QUALITY? REAL-TIME RENDERING: COMPUTER GRAPHICS WITH CONTROL ENGINEERING PRESENTS A NOVEL FRAMEWORK FOR SOLVING THE PERNICIOUS CHALLENGE OF RESOURCE ALLOCATION AND THE TRADE-OFF BETWEEN QUALITY AND SPEED IN INTERACTIVE COMPUTER GRAPHICS RENDERING. CONVENTIONAL APPROACHES ARE MAINLY BASED ON HEURISTICS AND ALGORITHMS, ARE LARGELY APPLICATION SPECIFIC, AND OFFER FLUCTUATING PERFORMANCE, PARTICULARLY AS APPLICATIONS BECOME MORE COMPLEX. THE SOLUTION PROPOSED BY THE AUTHORS DRAWS ON POWERFUL CONCEPTS FROM CONTROL ENGINEERING TO ADDRESS THESE SHORTCOMINGS. EXPANDING THE HORIZON OF REAL-TIME RENDERING TECHNIQUES, THIS BOOK: EXPLAINS HOW CONTROL SYSTEMS WORK WITH REAL-TIME COMPUTER GRAPHICS PROPOSES A DATA-DRIVEN MODELLING APPROACH THAT MORE ACCURATELY REPRESENTS THE SYSTEM BEHAVIOUR OF THE RENDERING PROCESS DEVELOPS A CONTROL SYSTEM STRATEGY FOR LINEAR AND NON-LINEAR MODELS USING PROPORTIONAL, INTEGRAL, DERIVATIVE (PID) AND FUZZY CONTROL TECHNIQUES USES REAL-WORLD DATA FROM RENDERING APPLICATIONS IN PROOF-OF-CONCEPT EXPERIMENTS COMPARES THE PROPOSED SOLUTION TO EXISTING TECHNIQUES PROVIDES PRACTICAL DETAILS ON IMPLEMENTATION, INCLUDING REFERENCES TO TOOLS AND SOURCE CODE THIS PIONEERING WORK TAKES A MAJOR STEP FORWARD BY APPLYING CONTROL THEORY IN THE CONTEXT OF A COMPUTER GRAPHICS SYSTEM. PROMOTING CROSS-DISCIPLINARY RESEARCH, IT OFFERS GUIDANCE FOR ANYONE WHO WANTS TO DEVELOP MORE ADVANCED SOLUTIONS FOR REAL-TIME COMPUTER GRAPHICS RENDERING.

**INFORMATION TECHNOLOGY AND COMPUTER APPLICATION ENGINEERING** HSIANG-CHUAN LIU 2013-10-11 THIS PROCEEDINGS VOLUME BRINGS TOGETHER SOME 189 PEER-REVIEWED PAPERS PRESENTED AT THE INTERNATIONAL CONFERENCE ON INFORMATION TECHNOLOGY AND COMPUTER APPLICATION ENGINEERING, HELD 27-28 AUGUST 2013, IN HONG KONG, CHINA. SPECIFIC TOPICS UNDER CONSIDERATION INCLUDE CONTROL, ROBOTICS, AND AUTOMATION, INFORMATION TECHNOLOGY, INTELLIGENT COMPUTING AND TELECOMMUNICATION, COMPUTER SCIENCE AND ENGINEERING, COMPUTER EDUCATION AND APPLICATION AND OTHER RELATED TOPICS. THIS BOOK PROVIDES READERS A STATE-OF-THE-ART SURVEY OF RECENT INNOVATIONS AND RESEARCH WORLDWIDE IN INFORMATION TECHNOLOGY AND COMPUTER APPLICATION ENGINEERING, IN SO-DOING FURTHERING THE DEVELOPMENT AND GROWTH OF THESE RESEARCH FIELDS, STRENGTHENING INTERNATIONAL ACADEMIC COOPERATION AND COMMUNICATION, AND PROMOTING THE FRUITFUL EXCHANGE OF RESEARCH IDEAS. THIS VOLUME WILL BE OF INTEREST TO PROFESSIONALS AND ACADEMICS ALIKE, SERVING AS A BROAD OVERVIEW OF THE LATEST ADVANCES IN THE DYNAMIC FIELD OF INFORMATION TECHNOLOGY AND COMPUTER APPLICATION ENGINEERING.

**DIGITAL CIRCUITS** RONALD C. EMERY 2020-11-25 THIS TEXTBOOK IS INTENDED TO INTRODUCE THE STUDENT OF ELECTRONICS TO THE FUNDAMENTALS OF DIGITAL CIRCUITS, BOTH COMBINATIONAL AND SEQUENTIAL, IN A REASONABLE AND SYSTEMATIC MANNER. IT PROCEEDS FROM BASIC LOGIC CONCEPTS TO CIRCUITS AND DESIGNS.

**COMPUTING HANDBOOK, THIRD EDITION** TEOFILO GONZALEZ 2014-05-07 COMPUTING HANDBOOK, THIRD EDITION: COMPUTER SCIENCE AND SOFTWARE ENGINEERING MIRRORS THE MODERN TAXONOMY OF COMPUTER SCIENCE AND SOFTWARE ENGINEERING AS DESCRIBED BY THE ASSOCIATION FOR COMPUTING MACHINERY (ACM) AND THE IEEE COMPUTER SOCIETY (IEEE-CS). WRITTEN BY ESTABLISHED LEADING EXPERTS AND INFLUENTIAL YOUNG RESEARCHERS, THE FIRST VOLUME OF THIS POPULAR HANDBOOK EXAMINES THE ELEMENTS INVOLVED IN DESIGNING AND IMPLEMENTING SOFTWARE, NEW AREAS IN WHICH COMPUTERS ARE BEING USED, AND WAYS TO SOLVE COMPUTING PROBLEMS. THE BOOK ALSO EXPLORES OUR CURRENT UNDERSTANDING OF SOFTWARE ENGINEERING AND ITS EFFECT ON THE PRACTICE OF SOFTWARE DEVELOPMENT AND THE EDUCATION OF SOFTWARE PROFESSIONALS. LIKE THE SECOND VOLUME, THIS FIRST VOLUME DESCRIBES WHAT OCCURS IN RESEARCH LABORATORIES, EDUCATIONAL INSTITUTIONS, AND PUBLIC AND PRIVATE ORGANIZATIONS TO ADVANCE THE EFFECTIVE DEVELOPMENT AND USE OF COMPUTERS AND COMPUTING IN TODAY'S WORLD. RESEARCH-LEVEL SURVEY ARTICLES PROVIDE DEEP INSIGHTS INTO THE COMPUTING DISCIPLINE, ENABLING READERS TO UNDERSTAND THE PRINCIPLES AND PRACTICES THAT DRIVE COMPUTING EDUCATION, RESEARCH, AND DEVELOPMENT IN THE TWENTY-FIRST CENTURY.

**INNOVATIVE TRENDS IN PERSONALIZED SOFTWARE ENGINEERING AND INFORMATION SYSTEMS** C. TROUSSAS 2020-08-04 THIS BOOK, INNOVATIVE TRENDS IN PERSONALIZED SOFTWARE ENGINEERING AND INFORMATION SYSTEMS - THE CASE OF INTELLIGENT AND ADAPTIVE E-LEARNING SYSTEMS, STUDIES THE DEVELOPMENT OF PERSONALIZED AND KNOWLEDGE-BASED SYSTEMS WITH THE PURPOSE OF DEVELOPING FULLY-AUTOMATED ADAPTIVE SOFTWARE, MAINLY FOCUSING ON ENHANCING DIGITAL LEARNING. THE AUTHORS COVER SEVERAL INTEGRAL PHASES OF SOFTWARE ENGINEERING AND THEIR APPLICATION IN THE EFFECTIVE IMPLEMENTATION OF SOPHISTICATED LEARNING TECHNOLOGY SYSTEMS. SYSTEMS DEVELOPMENT AND SYSTEMS EVALUATION, TAILORED TO ADAPTIVE E-LEARNING, ARE EXAMINED IN DEPTH. MORE SPECIFICALLY, INTELLIGENT AND KNOWLEDGE-BASED TECHNIQUES, SUCH AS ARTIFICIAL NEURAL NETWORKS, FUZZY LOGIC, GENETIC ALGORITHMS, PATTERN RECOGNITION, LEARNING ANALYTICS AND DATA MINING, AS WELL AS EVALUATION FRAMEWORKS ADAPTED TO DIGITAL LEARNING SOFTWARE ARE PRESENTED. THIS PUBLICATION WILL BE OF INTEREST TO SCIENTISTS FROM VARIOUS DISCIPLINES, INCLUDING COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE, EDUCATION AND PSYCHOLOGY, AND WILL HELP RESEARCHERS WORKING IN COMPUTER SCIENCE AND ENGINEERING TO BUILD INTELLIGENT AND ADAPTIVE LEARNING TECHNOLOGY SYSTEMS BY EMPLOYING PERSONALIZATION TECHNIQUES WHILE FOLLOWING THE BASIC CONCEPTS OF SOFTWARE ENGINEERING AND INFORMATION SYSTEMS. IT WILL ALSO SERVE AS A VALUABLE TOOL FOR JUNIOR AND SENIOR SCIENTISTS, SUPPORTING THEIR RESEARCH ACTIVITIES IN THE FIELD OF PERSONALIZED AND KNOWLEDGE-BASED SOFTWARE ENGINEERING, AND INSTRUCTORS WILL BE ABLE TO USE THE BOOK AS A GUIDE TO THE EFFECTIVE DESIGN AND DEVELOPMENT OF INTELLIGENT SYSTEMS IN EDUCATION.

**ENGINEERING THE COMPUTER SCIENCE AND IT** SAFEULLAH SOOMRO 2009-10-01 IT HAS BEEN MANY DECADES, SINCE COMPUTER SCIENCE HAS BEEN ABLE TO ACHIEVE TREMENDOUS RECOGNITION AND HAS BEEN APPLIED IN VARIOUS FIELDS, MAINLY COMPUTER PROGRAMMING AND SOFTWARE ENGINEERING. MANY EFFORTS HAVE BEEN TAKEN TO IMPROVE KNOWLEDGE OF RESEARCHERS, EDUCATIONISTS AND OTHERS IN THE FIELD OF COMPUTER SCIENCE AND ENGINEERING. THIS BOOK PROVIDES A FURTHER INSIGHT IN THIS DIRECTION. IT PROVIDES INNOVATIVE IDEAS IN THE FIELD OF COMPUTER SCIENCE AND ENGINEERING WITH A VIEW TO FACE NEW CHALLENGES OF THE CURRENT AND FUTURE CENTURIES. THIS BOOK COMPRISES OF 25 CHAPTERS FOCUSING ON THE BASIC AND APPLIED RESEARCH IN THE FIELD OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY. IT INCREASES KNOWLEDGE IN THE TOPICS SUCH AS WEB PROGRAMMING, LOGIC PROGRAMMING, SOFTWARE DEBUGGING, REAL-TIME SYSTEMS, STATISTICAL MODELING, NETWORKING, PROGRAM ANALYSIS, MATHEMATICAL MODELS AND NATURAL LANGUAGE PROCESSING.

**JAVA HOW TO PROGRAM** PAUL J. DEITEL 2011-11-21 THIS IS THE EBOOK OF THE PRINTED BOOK AND MAY NOT INCLUDE ANY MEDIA, WEBSITE ACCESS CODES, OR PRINT SUPPLEMENTS THAT MAY COME PACKAGED WITH THE BOUND BOOK. THE DEITELS' GROUNDBREAKING HOW TO PROGRAM SERIES OFFERS UNPARALLELED BREADTH AND DEPTH OF OBJECT-ORIENTED PROGRAMMING CONCEPTS AND INTERMEDIATE-LEVEL TOPICS FOR FURTHER STUDY. THIS SURVEY OF JAVA PROGRAMMING CONTAINS AN OPTIONAL EXTENSIVE OOD/UML 2 CASE STUDY ON DEVELOPING AND IMPLEMENTING THE SOFTWARE FOR AN AUTOMATED TELLER MACHINE. THE EIGHTH EDITION OF THIS ACCLAIMED TEXT IS NOW CURRENT WITH THE JAVA SE 6 UPDATES THAT HAVE OCCURRED SINCE THE BOOK WAS LAST PUBLISHED. THE LATE OBJECTS VERSION DELAYS COVERAGE OF CLASS DEVELOPMENT UNTIL CHAPTER 8, PRESENTING THE CONTROL STRUCTURES, METHODS AND ARRAYS MATERIAL IN A NON-OBJECT-ORIENTED, PROCEDURAL PROGRAMMING CONTEXT.

**DIGITAL SYSTEMS AND APPLICATIONS** VOJIN G. OKLOBDZIJA 2017-12-19 NEW DESIGN ARCHITECTURES IN COMPUTER SYSTEMS HAVE SURPASSED INDUSTRY EXPECTATIONS. LIMITS, WHICH WERE ONCE THOUGHT OF AS FUNDAMENTAL, HAVE NOW BEEN BROKEN. DIGITAL SYSTEMS AND APPLICATIONS DETAILS THESE INNOVATIONS IN SYSTEMS DESIGN AS WELL AS CUTTING-EDGE APPLICATIONS THAT ARE EMERGING TO TAKE ADVANTAGE OF THE FIELDS INCREASINGLY SOPHISTICATED CAPABILITIES. THIS BOOK FEATURES NEW CHAPTERS ON PARALLELIZING ITERATIVE HEURISTICS, STREAM AND WIRELESS PROCESSORS, AND LIGHTWEIGHT EMBEDDED SYSTEMS. THIS FUNDAMENTAL TEXT — PROVIDES A CLEAR FOCUS ON COMPUTER SYSTEMS, ARCHITECTURE, AND APPLICATIONS TAKES A TOP-LEVEL VIEW OF SYSTEM ORGANIZATION BEFORE MOVING ON TO ARCHITECTURAL AND ORGANIZATIONAL CONCEPTS SUCH AS SUPERSCALAR AND VECTOR PROCESSOR, VLIW ARCHITECTURE, AS WELL AS NEW TRENDS IN MULTITHREADING AND MULTIPROCESSING. INCLUDES AN ENTIRE SECTION DEDICATED TO EMBEDDED SYSTEMS AND THEIR APPLICATIONS DISCUSSES TOPICS SUCH AS DIGITAL SIGNAL PROCESSING APPLICATIONS, CIRCUIT IMPLEMENTATION ASPECTS, PARALLEL I/O ALGORITHMS, AND OPERATING SYSTEMS CONCLUDES WITH A LOOK AT NEW AND

FUTURE DIRECTIONS IN COMPUTING FEATURES ARTICLES THAT DESCRIBE DIVERSE ASPECTS OF COMPUTER USAGE AND POTENTIALS FOR USE DETAILS IMPLEMENTATION AND PERFORMANCE-ENHANCING TECHNIQUES SUCH AS BRANCH PREDICTION, REGISTER RENAMING, AND VIRTUAL MEMORY INCLUDES A SECTION ON NEW DIRECTIONS IN COMPUTING AND THEIR PENETRATION INTO MANY NEW FIELDS AND ASPECTS OF OUR DAILY LIVES

**E-SYSTEMS FOR THE 21ST CENTURY** SEIFEDINE KADRY 2019-07-10 E-BASED SYSTEMS AND COMPUTER NETWORKS ARE BECOMING STANDARD PRACTICE ACROSS ALL SECTORS, INCLUDING HEALTH, ENGINEERING, BUSINESS, EDUCATION, SECURITY, AND CITIZEN INTERACTION WITH LOCAL AND NATIONAL GOVERNMENT. THEY FACILITATE RAPID AND EASY DISSEMINATION OF INFORMATION AND DATA TO ASSIST SERVICE PROVIDERS AND END-USERS, OFFERING EXISTING AND NEWLY ENGINEERED SERVICES, PRODUCTS, AND COMMUNICATION CHANNELS. RECENT YEARS HAVE WITNESSED RISING INTEREST IN THESE COMPUTERIZED SYSTEMS AND PROCEDURES, WHICH EXPLOIT DIFFERENT FORMS OF ELECTRONIC MEDIA TO OFFER EFFECTIVE AND SOPHISTICATED SOLUTIONS TO A WIDE RANGE OF REAL-WORLD APPLICATIONS. WITH CONTRIBUTIONS FROM RESEARCHERS AND PRACTITIONERS FROM AROUND THE WORLD, THIS TWO-VOLUME BOOK DISCUSSES AND REPORTS ON NEW AND IMPORTANT DEVELOPMENTS IN THE FIELD OF E-SYSTEMS, COVERING A WIDE RANGE OF CURRENT ISSUES IN THE DESIGN, ENGINEERING, AND ADOPTION OF E-SYSTEMS. **E-SYSTEMS FOR THE 21ST CENTURY: CONCEPT, DEVELOPMENTS AND APPLICATIONS** FOCUSES ON THE USE OF E-SYSTEMS IN MANY AREAS OF SECTORS OF CONTEMPORARY LIFE, INCLUDING COMMERCE AND BUSINESS, LEARNING AND EDUCATION, HEALTH CARE, GOVERNMENT AND LAW, VOTING, AND SERVICE BUSINESSES. THE TWO-VOLUME BOOK OFFERS COMPREHENSIVE RESEARCH AND CASE STUDIES ADDRESSING E-SYSTEM USE IN HEALTH, BUSINESS, EDUCATION, SECURITY, AND CITIZEN INTERACTION WITH LOCAL AND NATIONAL GOVERNMENT. SEVERAL STUDIES ADDRESS THE USE OF SOCIAL NETWORKS IN PROVIDING SERVICES AS WELL AS ISSUES IN MAINTENANCE AND SECURITY OF E-SYSTEMS AS WELL. THIS COLLECTION WILL BE VALUABLE TO RESEARCHERS AT UNIVERSITIES AND OTHER INSTITUTIONS WORKING IN THESE FIELDS, PRACTITIONERS IN THE RESEARCH AND DEVELOPMENT DEPARTMENTS IN INDUSTRY, AND STUDENTS CONDUCTING RESEARCH IN THE AREAS OF E-SYSTEMS. THE BOOK CAN BE USED AS AN ADVANCED REFERENCE FOR A COURSE TAUGHT AT THE UNDERGRADUATE AND GRADUATE-LEVEL IN BUSINESS AND ENGINEERING SCHOOLS AS WELL.

**CURRENT TRENDS AND ADVANCES IN COMPUTER-AIDED INTELLIGENT ENVIRONMENTAL DATA ENGINEERING** GONCALO MARQUES 2022-03-20 CURRENT TRENDS AND ADVANCES IN COMPUTER-AIDED INTELLIGENT ENVIRONMENTAL DATA ENGINEERING MERGES COMPUTER ENGINEERING AND ENVIRONMENTAL ENGINEERING. THE BOOK PRESENTS THE LATEST FINDING ON HOW DATA SCIENCE AND AI-BASED TOOLS ARE BEING APPLIED IN ENVIRONMENTAL ENGINEERING RESEARCH. THIS APPLICATION INVOLVES MULTIPLE DOMAINS SUCH AS DATA SCIENCE AND ARTIFICIAL INTELLIGENCE TO TRANSFORM THE DATA COLLECTED BY INTELLIGENT SENSORS INTO RELEVANT AND RELIABLE INFORMATION TO SUPPORT DECISION-MAKING. THESE TOOLS INCLUDE FUZZY LOGIC, KNOWLEDGE-BASED SYSTEMS, PARTICLE SWARM OPTIMIZATION, GENETIC ALGORITHMS, MONTE CARLO SIMULATION, ARTIFICIAL NEURAL NETWORKS, SUPPORT VECTOR MACHINE, BOOSTED REGRESSION TREE, SIMULATED ANNEALING, ANT COLONY ALGORITHM, DECISION TREE, IMMUNE ALGORITHM, AND IMPERIALIST COMPETITIVE ALGORITHM. THIS BOOK IS A FUNDAMENTAL INFORMATION SOURCE BECAUSE IT IS THE FIRST BOOK TO PRESENT THE FOUNDATIONAL REFERENCE MATERIAL IN THIS NEW RESEARCH FIELD. FURTHERMORE, IT GIVES A CRITICAL OVERVIEW OF THE LATEST CROSS-DOMAIN RESEARCH FINDINGS AND TECHNOLOGICAL DEVELOPMENTS ON THE RECENT ADVANCES IN COMPUTER-AIDED INTELLIGENT ENVIRONMENTAL DATA ENGINEERING. CAPTURES THE APPLICATION OF DATA SCIENCE AND ARTIFICIAL INTELLIGENCE FOR A BROADER SPECTRUM OF ENVIRONMENTAL ENGINEERING PROBLEMS PRESENTS METHODS AND PROCEDURES AS WELL AS CASE STUDIES WHERE STATE-OF-THE-ART TECHNOLOGIES ARE APPLIED IN ACTUAL ENVIRONMENTAL SCENARIOS OFFERS A COMPILATION OF ESSENTIAL AND CRITICAL REVIEWS ON THE APPLICATION OF DATA SCIENCE AND ARTIFICIAL INTELLIGENCE TO THE ENTIRE SPECTRUM OF ENVIRONMENTAL ENGINEERING **PRINCIPLES OF COMPUTER SYSTEM DESIGN** JEROME H. SALTZER 2009-05-21 PRINCIPLES OF COMPUTER SYSTEM DESIGN IS THE FIRST TEXTBOOK TO TAKE A PRINCIPLES-BASED APPROACH TO THE COMPUTER SYSTEM DESIGN. IT IDENTIFIES, EXAMINES, AND ILLUSTRATES FUNDAMENTAL CONCEPTS IN COMPUTER SYSTEM DESIGN THAT ARE COMMON ACROSS OPERATING SYSTEMS, NETWORKS, DATABASE SYSTEMS, DISTRIBUTED SYSTEMS, PROGRAMMING LANGUAGES, SOFTWARE ENGINEERING, SECURITY, FAULT TOLERANCE, AND ARCHITECTURE. THROUGH CAREFULLY ANALYZED CASE STUDIES FROM EACH OF THESE DISCIPLINES, IT DEMONSTRATES HOW TO APPLY THESE CONCEPTS TO TACKLE PRACTICAL SYSTEM DESIGN PROBLEMS. TO SUPPORT THE FOCUS ON DESIGN, THE TEXT IDENTIFIES AND EXPLAINS ABSTRACTIONS THAT HAVE PROVEN SUCCESSFUL IN PRACTICE SUCH AS REMOTE PROCEDURE CALL, CLIENT/SERVICE ORGANIZATION, FILE SYSTEMS, DATA INTEGRITY, CONSISTENCY, AND AUTHENTICATED MESSAGES. MOST COMPUTER SYSTEMS ARE BUILT USING A HANDFUL OF SUCH ABSTRACTIONS. THE TEXT DESCRIBES HOW THESE ABSTRACTIONS ARE IMPLEMENTED, DEMONSTRATES HOW THEY ARE USED IN DIFFERENT SYSTEMS, AND PREPARES THE READER TO APPLY THEM IN FUTURE DESIGNS. THE BOOK IS RECOMMENDED FOR JUNIOR AND SENIOR UNDERGRADUATE STUDENTS IN OPERATING SYSTEMS, DISTRIBUTED SYSTEMS, DISTRIBUTED OPERATING SYSTEMS AND/OR COMPUTER SYSTEMS DESIGN COURSES; AND PROFESSIONAL COMPUTER SYSTEMS DESIGNERS. FEATURES: CONCEPTS OF COMPUTER SYSTEM DESIGN GUIDED BY FUNDAMENTAL PRINCIPLES. CROSS-CUTTING APPROACH THAT IDENTIFIES ABSTRACTIONS COMMON TO NETWORKING, OPERATING SYSTEMS, TRANSACTION SYSTEMS, DISTRIBUTED SYSTEMS, ARCHITECTURE, AND SOFTWARE ENGINEERING. CASE STUDIES THAT MAKE THE ABSTRACTIONS REAL: NAMING (DNS AND THE URL); FILE SYSTEMS (THE UNIX FILE SYSTEM); CLIENTS AND SERVICES (NFS); VIRTUALIZATION (VIRTUAL MACHINES); SCHEDULING (DISK ARMS); SECURITY (TLS). NUMEROUS PSEUDOCODE FRAGMENTS THAT PROVIDE CONCRETE EXAMPLES OF ABSTRACT CONCEPTS. EXTENSIVE SUPPORT. THE AUTHORS AND MIT OPENCOURSEWARE PROVIDE ON-LINE, FREE OF CHARGE, OPEN EDUCATIONAL RESOURCES, INCLUDING ADDITIONAL CHAPTERS, COURSE SYLLABI, BOARD LAYOUTS AND SLIDES, LECTURE VIDEOS, AND AN ARCHIVE OF LECTURE SCHEDULES, CLASS ASSIGNMENTS, AND DESIGN PROJECTS.

**AN INTRODUCTION TO INFORMATION PROCESSING** HARVEY M. DIETEL 2014-06-28 AN INTRODUCTION TO INFORMATION PROCESSING PROVIDES AN INFORMAL INTRODUCTION TO THE COMPUTER FIELD. THIS BOOK INTRODUCES COMPUTER HARDWARE, WHICH IS THE ACTUAL COMPUTING EQUIPMENT. ORGANIZED INTO THREE PARTS ENCOMPASSING 12 CHAPTERS, THIS BOOK BEGINS WITH AN OVERVIEW OF THE EVOLUTION OF PERSONAL COMPUTING AND INCLUDES DETAILED CASE STUDIES ON TWO OF THE MOST ESSENTIAL PERSONAL COMPUTERS FOR THE 1980S, NAMELY, THE IBM PERSONAL COMPUTER AND APPLE'S MACINTOSH. THIS TEXT THEN TRACES THE EVOLUTION OF MODERN COMPUTING SYSTEMS FROM THE EARLIEST MECHANICAL CALCULATING DEVICES TO MICROCHIPS. OTHER CHAPTERS CONSIDER THE COMPONENTS AND OPERATION OF TYPICAL DATA COMMUNICATIONS SYSTEMS. THIS BOOK DISCUSSES AS WELL THE VARIOUS TYPES OF COMMUNICATIONS NETWORKS AND COMMUNICATIONS VIA SPACE SATELLITES. THE FINAL CHAPTER DEALS WITH SOFTWARE OR COMPUTER PROGRAMS, THE SETS OF INSTRUCTIONS THAT PROGRAMMERS WRITE TO INFORM THE COMPUTER HOW TO SOLVE PARTICULAR PROBLEMS. THIS BOOK IS A VALUABLE RESOURCE FOR COMPUTER SPECIALISTS, MATHEMATICIANS, AND COMPUTER PROGRAMMERS.

**COMPUTER GAMES AND SOFTWARE ENGINEERING** KENDRA M. L. COOPER 2015-05-08 COMPUTER GAMES REPRESENT A SIGNIFICANT SOFTWARE APPLICATION DOMAIN FOR INNOVATIVE RESEARCH IN SOFTWARE ENGINEERING TECHNIQUES AND TECHNOLOGIES. GAME DEVELOPERS, WHETHER FOCUSING ON ENTERTAINMENT-MARKET OPPORTUNITIES OR GAME-BASED APPLICATIONS IN NON-ENTERTAINMENT DOMAINS, THUS SHARE A COMMON INTEREST WITH SOFTWARE ENGINEERS AND DEVELOPERS ON HOW TO BEST ENGINEER GAME SOFTWARE. FEATURING CONTRIBUTIONS FROM LEADING EXPERTS IN SOFTWARE ENGINEERING, THE BOOK PROVIDES A COMPREHENSIVE INTRODUCTION TO COMPUTER GAME SOFTWARE DEVELOPMENT THAT INCLUDES ITS HISTORY AS WELL AS EMERGING RESEARCH ON THE INTERACTION BETWEEN THESE TWO TRADITIONALLY DISTINCT FIELDS. AN IDEAL REFERENCE FOR SOFTWARE ENGINEERS, DEVELOPERS, AND RESEARCHERS, THIS BOOK EXPLORES GAME PROGRAMMING AND DEVELOPMENT FROM A SOFTWARE ENGINEERING PERSPECTIVE. IT INTRODUCES THE LATEST RESEARCH IN COMPUTER GAME SOFTWARE ENGINEERING (CGSE) AND COVERS TOPICS SUCH AS HALO (HIGHLY ADDICTIVE, SOCIALLY OPTIMIZED) SOFTWARE ENGINEERING, MULTI-PLAYER OUTDOOR SMARTPHONE GAMES, GAMIFYING SPORTS SOFTWARE, AND ARTIFICIAL INTELLIGENCE IN GAMES. THE BOOK EXPLORES THE USE OF GAMES IN SOFTWARE ENGINEERING EDUCATION EXTENSIVELY. IT ALSO COVERS GAME SOFTWARE REQUIREMENTS ENGINEERING, GAME SOFTWARE ARCHITECTURE AND DESIGN APPROACHES, GAME SOFTWARE TESTING AND USABILITY ASSESSMENT, GAME DEVELOPMENT FRAMEWORKS AND REUSABILITY TECHNIQUES, AND GAME SCALABILITY INFRASTRUCTURE, INCLUDING SUPPORT FOR MOBILE DEVICES AND WEB-BASED SERVICES.

**THE COMPUTER ENGINEERING HANDBOOK** VOJIN G. OKLOBDZIJA 2001-12-26 THERE IS ARGUABLY NO FIELD IN GREATER NEED OF A COMPREHENSIVE HANDBOOK THAN COMPUTER ENGINEERING. THE UNPARALLELED RATE OF TECHNOLOGICAL ADVANCEMENT, THE EXPLOSION OF COMPUTER APPLICATIONS, AND THE NOW-IN-PROGRESS MIGRATION TO A WIRELESS WORLD HAVE MADE IT DIFFICULT FOR ENGINEERS TO KEEP UP WITH ALL THE DEVELOPMENTS IN SPECIALTIES OUTSIDE THEIR OWN

**SOFTWARE QUALITY ENGINEERING** JEFF TIAN 2005-05-20 THE ONE RESOURCE NEEDED TO CREATE RELIABLE SOFTWARE THIS TEXT OFFERS A COMPREHENSIVE AND INTEGRATED APPROACH TO SOFTWARE QUALITY ENGINEERING. BY FOLLOWING THE AUTHOR'S CLEAR GUIDANCE, READERS LEARN HOW TO MASTER THE TECHNIQUES TO PRODUCE HIGH-QUALITY, RELIABLE SOFTWARE, REGARDLESS OF THE SOFTWARE SYSTEM'S LEVEL OF COMPLEXITY. THE FIRST PART OF THE PUBLICATION INTRODUCES MAJOR TOPICS IN SOFTWARE QUALITY ENGINEERING AND PRESENTS QUALITY PLANNING AS AN INTEGRAL PART OF THE PROCESS. PROVIDING READERS WITH A SOLID FOUNDATION IN KEY CONCEPTS AND PRACTICES, THE BOOK MOVES ON TO OFFER IN-DEPTH COVERAGE OF SOFTWARE TESTING AS A PRIMARY MEANS TO ENSURE SOFTWARE QUALITY; ALTERNATIVES FOR QUALITY ASSURANCE, INCLUDING DEFECT PREVENTION, PROCESS IMPROVEMENT, INSPECTION, FORMAL VERIFICATION, FAULT TOLERANCE, SAFETY ASSURANCE, AND DAMAGE CONTROL; AND MEASUREMENT AND ANALYSIS TO CLOSE THE FEEDBACK LOOP FOR QUALITY ASSESSMENT AND QUANTIFIABLE IMPROVEMENT. THE TEXT'S APPROACH AND STYLE EVOLVED FROM THE AUTHOR'S HANDS-ON EXPERIENCE IN THE CLASSROOM. ALL THE PEDAGOGICAL TOOLS NEEDED TO FACILITATE QUICK LEARNING ARE PROVIDED: \* FIGURES AND TABLES THAT CLARIFY CONCEPTS AND PROVIDE QUICK TOPIC SUMMARIES \* EXAMPLES THAT ILLUSTRATE HOW THEORY IS APPLIED IN REAL-WORLD SITUATIONS \* COMPREHENSIVE BIBLIOGRAPHY THAT LEADS TO IN-DEPTH

*STRUCTURE AND INTERPRETATION OF COMPUTER PROGRAMS, SECOND EDITION*

*How Things Work*

DISCUSSION OF SPECIALIZED TOPICS \* PROBLEM SETS AT THE END OF EACH CHAPTER THAT TEST READERS' KNOWLEDGE THIS IS A SUPERIOR TEXTBOOK FOR SOFTWARE ENGINEERING, COMPUTER SCIENCE, INFORMATION SYSTEMS, AND ELECTRICAL ENGINEERING STUDENTS, AND A DEPENDABLE REFERENCE FOR SOFTWARE AND COMPUTER PROFESSIONALS AND ENGINEERS.

HAROLD ABELSON 1996-07-25 STRUCTURE AND INTERPRETATION OF COMPUTER PROGRAMS HAS HAD A DRAMATIC IMPACT ON COMPUTER SCIENCE CURRICULA OVER THE PAST DECADE. THIS LONG-AWAITED REVISION CONTAINS CHANGES THROUGHOUT THE TEXT. THERE ARE NEW IMPLEMENTATIONS OF MOST OF THE MAJOR PROGRAMMING SYSTEMS IN THE BOOK, INCLUDING THE INTERPRETERS AND COMPILERS, AND THE AUTHORS HAVE INCORPORATED MANY SMALL CHANGES THAT REFLECT THEIR EXPERIENCE TEACHING THE COURSE AT MIT SINCE THE FIRST EDITION WAS PUBLISHED. A NEW THEME HAS BEEN INTRODUCED THAT EMPHASIZES THE CENTRAL ROLE PLAYED BY DIFFERENT APPROACHES TO DEALING WITH TIME IN COMPUTATIONAL MODELS: OBJECTS WITH STATE, CONCURRENT PROGRAMMING, FUNCTIONAL PROGRAMMING AND LAZY EVALUATION, AND NONDETERMINISTIC PROGRAMMING. THERE ARE NEW EXAMPLE SECTIONS ON HIGHER-ORDER PROCEDURES IN GRAPHICS AND ON APPLICATIONS OF STREAM PROCESSING IN NUMERICAL PROGRAMMING, AND MANY NEW EXERCISES. IN ADDITION, ALL THE PROGRAMS HAVE BEEN REWORKED TO RUN IN ANY SCHEME IMPLEMENTATION THAT ADHERES TO THE IEEE STANDARD.

**A FIRST COURSE IN ELECTRICAL AND COMPUTER ENGINEERING** LOUIS L. SCHARF 1990

CHARLES F. BOWMAN 2021-08-26 IT'S AXIOMATIC TO STATE THAT PEOPLE FEAR WHAT THEY DO NOT UNDERSTAND, AND THIS IS ESPECIALLY TRUE WHEN IT COMES TO TECHNOLOGY. HOWEVER, DESPITE THEIR PREVALENCE, COMPUTERS REMAIN SHROUDED IN MYSTERY, AND MANY USERS FEEL APPREHENSIVE WHEN INTERACTING WITH THEM. SMARTPHONES HAVE ONLY EXACERBATED THE ISSUE. INDEED, MOST USERS OF THESE DEVICES LEVERAGE ONLY A SMALL FRACTION OF THE POWER THEY HOLD IN THEIR HANDS. **HOW THINGS WORK: THE COMPUTER SCIENCE EDITION** IS A ROADMAP FOR READERS WHO WANT TO OVERCOME THEIR TECHNOPHOBIA AND HARNESS THE FULL POWER OF EVERYDAY TECHNOLOGY. BEGINNING WITH THE BASICS, THE BOOK DEMYSTIFIES THE MYSTERIOUS WORLD OF COMPUTER SCIENCE, EXPLAINS ITS FUNDAMENTAL CONCEPTS IN SIMPLE TERMS, AND ANSWERS THE QUESTIONS MANY USERS FEEL TOO INTIMIDATED TO ASK. BY THE END OF THE BOOK, READERS WILL UNDERSTAND HOW COMPUTERS AND SMART DEVICES FUNCTION AND, MORE IMPORTANT, HOW THEY CAN MAKE THESE DEVICES WORK FOR THEM. TO COMPLETE THE PICTURE, THE BOOK ALSO INTRODUCES READERS TO THE DARKER SIDE OF MODERN TECHNOLOGY: SECURITY AND PRIVACY CONCERNS, IDENTITY THEFT, AND THREATS FROM THE DARK WEB.

**FORMAL METHODS IN COMPUTER SCIENCE** JIACUN WANG 2019-06-21 THIS TEXTBOOK GIVES STUDENTS A COMPREHENSIVE INTRODUCTION TO FORMAL METHODS AND THEIR APPLICATION IN SOFTWARE AND HARDWARE SPECIFICATION AND VERIFICATION. IT HAS THREE PARTS: THE FIRST PART INTRODUCES SOME FUNDAMENTALS IN FORMAL METHODS, INCLUDING SET THEORY, FUNCTIONS, FINITE STATE MACHINES, AND REGULAR EXPRESSIONS. THE SECOND PART FOCUSES ON LOGI

**RETHINKING PRODUCTIVITY IN SOFTWARE ENGINEERING** CAITLIN SADOWSKI 2019-05-07 GET THE MOST OUT OF THIS FOUNDATIONAL REFERENCE AND IMPROVE THE PRODUCTIVITY OF YOUR SOFTWARE TEAMS. THIS OPEN ACCESS BOOK COLLECTS THE WISDOM OF THE 2017 "DAGSTUHL" SEMINAR ON PRODUCTIVITY IN SOFTWARE ENGINEERING, A MEETING OF COMMUNITY LEADERS, WHO CAME TOGETHER WITH THE GOAL OF RETHINKING TRADITIONAL DEFINITIONS AND MEASURES OF PRODUCTIVITY. THE RESULTS OF THEIR WORK, RETHINKING PRODUCTIVITY IN SOFTWARE ENGINEERING, INCLUDES CHAPTERS COVERING DEFINITIONS AND CORE CONCEPTS RELATED TO PRODUCTIVITY, GUIDELINES FOR MEASURING PRODUCTIVITY IN SPECIFIC CONTEXTS, BEST PRACTICES AND PITFALLS, AND THEORIES AND OPEN QUESTIONS ON PRODUCTIVITY. YOU'LL BENEFIT FROM THE MANY SHORT CHAPTERS, EACH OFFERING A FOCUSED DISCUSSION ON ONE ASPECT OF PRODUCTIVITY IN SOFTWARE ENGINEERING. READERS IN MANY FIELDS AND INDUSTRIES WILL BENEFIT FROM THEIR COLLECTED WORK. DEVELOPERS WANTING TO IMPROVE THEIR PERSONAL PRODUCTIVITY, WILL LEARN EFFECTIVE STRATEGIES FOR OVERCOMING COMMON ISSUES THAT INTERFERE WITH PROGRESS. ORGANIZATIONS THINKING ABOUT BUILDING INTERNAL PROGRAMS FOR MEASURING PRODUCTIVITY OF PROGRAMMERS AND TEAMS WILL LEARN BEST PRACTICES FROM INDUSTRY AND RESEARCHERS IN MEASURING PRODUCTIVITY. AND RESEARCHERS CAN LEVERAGE THE CONCEPTUAL FRAMEWORKS AND RICH BODY OF LITERATURE IN THE BOOK TO EFFECTIVELY PURSUE NEW RESEARCH DIRECTIONS. **WHAT YOU'LL LEARN** REVIEW THE DEFINITIONS AND DIMENSIONS OF SOFTWARE PRODUCTIVITY SEE HOW TIME MANAGEMENT IS HAVING THE OPPOSITE OF THE INTENDED EFFECT DEVELOP VALUABLE DASHBOARDS UNDERSTAND THE IMPACT OF SENSORS ON PRODUCTIVITY AVOID SOFTWARE DEVELOPMENT WASTE WORK WITH HUMAN-CENTERED METHODS TO MEASURE PRODUCTIVITY LOOK AT THE INTERSECTION OF NEUROSCIENCE AND PRODUCTIVITY MANAGE INTERRUPTIONS AND CONTEXT-SWITCHING **WHO BOOK IS FOR** INDUSTRY DEVELOPERS AND THOSE RESPONSIBLE FOR SEMINAR-STYLE COURSES THAT INCLUDE A SEGMENT ON SOFTWARE DEVELOPER PRODUCTIVITY. CHAPTERS ARE WRITTEN FOR A GENERALIST AUDIENCE, WITHOUT EXCESSIVE USE

**OF HARDWARE ENGINEERING** **PRIMER WITH COMPUTER APPLICATIONS**

**INFORMATION SYSTEMS ENGINEERING** KEES M. VAN HEE 1994-06-24 IN THIS TEXTBOOK, PROFESSOR VAN HEE CONCENTRATES ON DISCRETE DYNAMIC SYSTEMS, E.G. COMPUTER HARDWARE, AND INFORMATION AND LOGISTICAL SYSTEMS. HE DEVELOPS AN INTEGRATED FORMALISM WHICH CAN BE USED AS A PROTOTYPING LANGUAGE.

**COMPUTER, NETWORK, SOFTWARE, AND HARDWARE ENGINEERING WITH APPLICATIONS** NORMAN F. SCHNEIDEWIND 2012-03-27 THERE ARE MANY BOOKS ON COMPUTERS, NETWORKS, AND SOFTWARE ENGINEERING BUT NONE THAT INTEGRATE THE THREE WITH APPLICATIONS. INTEGRATION IS IMPORTANT BECAUSE, INCREASINGLY, SOFTWARE DOMINATES THE PERFORMANCE, RELIABILITY, MAINTAINABILITY, AND AVAILABILITY OF COMPLEX COMPUTER AND SYSTEMS. BOOKS ON SOFTWARE ENGINEERING TYPICALLY PORTRAY SOFTWARE AS IF IT EXISTS IN A VACUUM WITH NO RELATIONSHIP TO THE WIDER SYSTEM. THIS IS WRONG BECAUSE A SYSTEM IS MORE THAN SOFTWARE. IT IS COMPRISED OF PEOPLE, ORGANIZATIONS, PROCESSES, HARDWARE, AND SOFTWARE. ALL OF THESE COMPONENTS MUST BE CONSIDERED IN AN INTEGRATIVE FASHION WHEN DESIGNING SYSTEMS. ON THE OTHER HAND, BOOKS ON COMPUTERS AND NETWORKS DO NOT DEMONSTRATE A DEEP UNDERSTANDING OF THE INTRICACIES OF DEVELOPING SOFTWARE. IN THIS BOOK YOU WILL LEARN, FOR EXAMPLE, HOW TO QUANTITATIVELY ANALYZE THE PERFORMANCE, RELIABILITY, MAINTAINABILITY, AND AVAILABILITY OF COMPUTERS, NETWORKS, AND SOFTWARE IN RELATION TO THE TOTAL SYSTEM. FURTHERMORE, YOU WILL LEARN HOW TO EVALUATE AND MITIGATE THE RISK OF DEPLOYING INTEGRATED SYSTEMS. YOU WILL LEARN HOW TO APPLY MANY MODELS DEALING WITH THE OPTIMIZATION OF SYSTEMS. NUMEROUS QUANTITATIVE EXAMPLES ARE PROVIDED TO HELP YOU UNDERSTAND AND INTERPRET MODEL RESULTS. THIS BOOK CAN BE USED AS A FIRST YEAR GRADUATE COURSE IN COMPUTER, NETWORK, AND SOFTWARE ENGINEERING; AS AN ON-THE-JOB REFERENCE FOR COMPUTER, NETWORK, AND SOFTWARE ENGINEERS; AND AS A REFERENCE FOR THESE DISCIPLINES.

**COMPUTER ENGINEERING** C. GORDON BELL 2014-05-12 **COMPUTER ENGINEERING: A DEC VIEW OF HARDWARE SYSTEMS DESIGN** FOCUSES ON THE PRINCIPLES, PROGRESS, AND CONCEPTS IN THE DESIGN OF HARDWARE SYSTEMS. THE SELECTION FIRST ELABORATES ON THE SEVEN VIEWS OF COMPUTER SYSTEMS, TECHNOLOGY PROGRESS IN LOGIC AND MEMORIES, AND PACKAGING AND MANUFACTURING. CONCERNS COVER POWER SUPPLIES, DEC COMPUTER PACKAGING GENERATIONS, GENERAL PACKAGING, SEMICONDUCTOR LOGIC TECHNOLOGY, MEMORY TECHNOLOGY, MEASURING (AND CREATING) TECHNOLOGY PROGRESS, STRUCTURAL LEVELS OF A COMPUTER SYSTEM, AND PACKAGING LEVELS-OF -INTEGRATION. THE MANUSCRIPT THEN EXAMINES TRANSISTOR CIRCUITRY IN THE LINCOLN TX-2, DIGITAL MODULES, PDP-1 AND OTHER 18-BIT COMPUTERS, PDP-8 AND OTHER 12-BIT COMPUTERS, AND STRUCTURAL LEVELS OF THE PDP-8. THE TEXT TAKES A LOOK AT CACHE MEMORIES FOR PDP-11 FAMILY COMPUTERS, BUSES, DEC LSI-11, AND DESIGN DECISIONS FOR THE PDP-11/60 MID-RANGE MINICOMPUTER. TOPICS INCLUDE RELIABILITY AND MAINTAINABILITY, PRICE/PERFORMANCE BALANCE, ADVANCES IN MEMORY TECHNOLOGY, SYNCHRONIZATION OF DATA TRANSFERS, ERROR CONTROL STRATEGIES, PDP-11/45, PDP-11/20, AND CACHE ORGANIZATION. THE SELECTION IS A FINE REFERENCE FOR PRACTICING COMPUTER DESIGNERS, USERS, PROGRAMMERS, DESIGNERS OF PERIPHERALS AND MEMORIES, AND STUDENTS OF COMPUTER ENGINEERING AND COMPUTER SCIENCE.

HUSSEIN K. ABDEL-AAL 2016-10-14 TAKING A HIGHLY PRAGMATIC APPROACH TO PRESENTING THE PRINCIPLES AND APPLICATIONS OF CHEMICAL ENGINEERING, THIS COMPANION TEXT FOR STUDENTS AND WORKING PROFESSIONALS OFFERS AN EASILY ACCESSIBLE GUIDE TO SOLVING PROBLEMS USING COMPUTERS. THE PRIMER COVERS THE CORE CONCEPTS OF CHEMICAL ENGINEERING, FROM CONSERVATION LAWS ALL THE WAY UP TO CHEMICAL KINETICS, WITHOUT HEAVY STRESS ON THEORY AND IS DESIGNED TO ACCOMPANY TRADITIONAL LARGER CORE TEXTS. THE BOOK PRESENTS THE BASIC PRINCIPLES AND TECHNIQUES OF CHEMICAL ENGINEERING PROCESSES AND HELPS READERS IDENTIFY TYPICAL PROBLEMS AND HOW TO SOLVE THEM. FOCUS IS ON THE USE OF SYSTEMATIC ALGORITHMS THAT EMPLOY NUMERICAL METHODS TO SOLVE DIFFERENT CHEMICAL ENGINEERING PROBLEMS BY DESCRIBING AND TRANSFORMING THE INFORMATION. PROBLEMS ARE ASSIGNED FOR EACH CHAPTER, RANGING FROM SIMPLE TO DIFFICULT, ALLOWING READERS TO GRADUALLY BUILD THEIR SKILLS AND TACKLE A BROAD RANGE OF PROBLEMS. MATLAB AND EXCEL ARE USED TO SOLVE MANY EXAMPLES AND THE MORE THAN 70 REAL EXAMPLES THROUGHOUT THE BOOK INCLUDE COMPUTER OR HAND SOLUTIONS, OR IN MANY CASES BOTH. THE BOOK ALSO INCLUDES A VARIETY OF CASE STUDIES TO ILLUSTRATE THE CONCEPTS AND A DOWNLOADABLE FILE CONTAINING FULLY WORKED SOLUTIONS TO THE BOOK'S PROBLEMS ON THE PUBLISHER'S WEBSITE. INTRODUCES THE READER TO CHEMICAL ENGINEERING COMPUTATION WITHOUT THE DISTRACTIONS CAUSED BY THE CONTENTS FOUND IN MANY TEXTS. PROVIDES THE PRINCIPLES UNDERLYING ALL OF THE MAJOR PROCESSES A CHEMICAL ENGINEER MAY ENCOUNTER AS WELL AS OFFERS INSIGHT INTO THEIR ANALYSIS, WHICH IS ESSENTIAL FOR DESIGN CALCULATIONS. SHOWS HOW TO SOLVE CHEMICAL ENGINEERING PROBLEMS USING COMPUTERS THAT REQUIRE NUMERICAL METHODS USING STANDARD ALGORITHMS, SUCH AS MATLAB® AND EXCEL®. CONTAINS SELECTIVE SOLVED EXAMPLES OF MANY PROBLEMS WITHIN THE CHEMICAL PROCESS INDUSTRY TO DEMONSTRATE HOW TO SOLVE THEM USING THE TECHNIQUES PRESENTED IN THE TEXT. INCLUDES A VARIETY OF CASE STUDIES TO ILLUSTRATE THE CONCEPTS AND A DOWNLOADABLE FILE CONTAINING FULLY WORKED SOLUTIONS TO PROBLEMS ON THE PUBLISHER'S WEBSITE. OFFERS NON-CHEMICAL ENGINEERS WHO ARE EXPECTED TO WORK WITH CHEMICAL ENGINEERS ON PROJECTS, SCALE-UPS AND PROCESS EVALUATIONS A SOLID UNDERSTANDING OF BASIC CONCEPTS OF CHEMICAL ENGINEERING ANALYSIS, DESIGN, AND CALCULATIONS.