

# Abma Computer Engineering Notes

**Algorithm Engineering Electrical Machines** *Proceedings of the 6th International Conference on Electrical, Control and Computer Engineering Reflection and Software Engineering Connecting with Computability* **CLU Software Process: Principles, Methodology, and Technology** Trends in Intelligent Systems and Computer Engineering *LOGIC: Lecture Notes for Philosophy, Mathematics, and Computer Science* *Proceedings of the 11th International Conference on Computer Engineering and Networks* **Multiobjective Optimization Axioms and Hulls** **Proceedings of the 12th International Conference on Computer Engineering and Networks** **Innovations in Computer Science and Engineering** **Software Engineering for Self-Adaptive Systems** **Formal Methods for Industrial Critical Systems** **Applied Physics, System Science and Computers III** **Computational Collective Intelligence** **Distribution of Electrical Power** **Electrical and Computer Engineering** **Electric Power Transmission** **Network Performance Engineering** **Proceedings of the 4th International Conference on Computer Engineering and Networks** **Computer Engineering and Networking** *Large-Scale Scientific Computing Pillars of Computer Science Performance Engineering Network Calculus Intelligent Control and Innovative Computing* Trends in Artificial Intelligence and Computer Engineering *Fortran 90/95 for Scientists and Engineers* *Advances in Electrical and Computer Technologies* **Advances in Computer Science for Engineering and Education IV** **Computer Networks, Big Data and IoT** **InECCE2019 An Introduction to Python and Computer Programming** **SOFSEM 2020: Theory and Practice of Computer Science** **Computer Science and Convergence** **Advances in Visual Computing** *Lecture Notes in LabVIEW and Data Acquisition*

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**Electrical and Computer Engineering** Mar 08 2021 This book constitutes the refereed proceedings of the First International Congress, ICECENG 2022, held in February 2022. Due to COVID-19 pandemic the conference was held virtually. The 15 full and 2 short papers were selected from 48 submissions and are organized in 4 main tracks: technology trends, artificial intelligence, computing and security. The papers detail the application of formal methods to the construction and analysis of models describing technological processes at both micro and macro levels.

*Pillars of Computer Science* Sep 02 2020 For over half a century, Boris (Boaz) Trakhtenbrot has made seminal contributions to virtually all of the central areas of theoretical computer science. This festschrift volume readily illustrates the profound influence he has had on the field.

**Axioms and Hulls** Nov 16 2021

*Large-Scale Scientific Computing* Oct 03 2020 This book constitutes revised papers from the 12th International Conference on Large-Scale Scientific Computing, LSSC 2019, held in Sozopol, Bulgaria, in June 2019. The 70 papers presented in this volume were carefully reviewed and selected from 81 submissions. The book also contains two invited talks. The papers were organized in topical sections named as follows: control and optimization of dynamical systems; meshfree and particle methods; fractional diffusion problems: numerical methods, algorithms and applications; pore scale flow and transport simulation; tensors based algorithms and structures in optimization and applications; HPC and big data: algorithms and applications; large-scale models: numerical methods, parallel computations and applications; monte carlo algorithms: innovative applications in conjunctions with other methods; application of metaheuristics to large-scale problems; large scale machine learning: multiscale algorithms and performance guarantees; and contributed papers.

**Trends in Intelligent Systems and Computer Engineering** Mar 20 2022 This volume contains contributions from participants in the 2007 International Multiconference of Engineers and Computer Scientists. It covers a variety of subjects in the frontiers of intelligent systems and computer engineering and their industrial applications. The book offers up-to-date information on advances in intelligent systems and computer engineering and also serves as an excellent reference work for researchers and graduate students working in the field.

**Trends in Artificial Intelligence and Computer Engineering** Apr 28 2020 This book constitutes the proceedings of the 3rd International Conference on Advances in Emerging Trends and Technologies (ICAETT 2021), held in Riobamba, Ecuador, on November 10-12, 2021, proudly organized by Facultad de Informática y Electrónica (FIE) at Escuela Superior Politécnica de Chimborazo and supported by GDEON. ICAETT 2021 brings together top researchers and practitioners working in different domains of computer science to share their expertise and to discuss future developments and potential collaborations. Presenting high-quality, peer-reviewed papers, the book discusses the following topical e-Business e-Learning Intelligent systems Machine vision Security Technology trends .

**Advances in Visual Computing** Jul 20 2019 This two-volume set of LNCS 13017 and 13018 constitutes the refereed proceedings of the 16th International Symposium on Visual Computing, ISVC 2021, which was held in October 2021. The symposium took place virtually instead due to the COVID-19 pandemic. The 48 papers presented in these volumes were carefully reviewed and selected from 135 submissions. The papers are organized into the following topical sections: Part I: deep learning; computer graphics; segmentation; visualization; applications; 3D vision; virtual reality; motion and tracking; object detection and recognition. Part II: ST: medical image analysis; pattern recognition; video analysis and event recognition; posters.

**CLU** May 22 2022

**Applied Physics, System Science and Computers III** Jun 11 2021 This book reports on advanced theories and methods in three related fields of research: applied physics, system science and computers. The first part covers applied physics topics, such as lasers and accelerators; fluid dynamics, optics and spectroscopy, among others. It also addresses astrophysics, security, and medical and biological physics. The second part focuses on advances in computers, such as those in the area of social networks, games, internet of things, deep learning models and more. The third part is especially related to systems science, covering swarm intelligence, smart cities, complexity and more. Advances in and application of computer communication, artificial intelligence, data analysis, simulation and modeling are also addressed. The book offers a collection of contributions presented at the 3rd International Conference on Applied Physics, System Science and Computers (APSAC), held in Dubrovnik, Croatia on September 26–28, 2018. Besides presenting new methods, it is also intended to promote collaborations between different communities working on related topics at the interface between physics, computer science and engineering.

**Distribution of Electrical Power** Apr 09 2021 This book includes my lecture notes for electrical power distribution book. The fundamentals of electrical power distribution are applied to various distribution system layouts and the function of common distribution system substations and equipment. The book introduces the design procedures and protection methods for power distribution systems of consumer installations. Circuit simulation and practical laboratories are utilised to reinforce concepts. The book is divided to different learning outcomes • CLO 1- Discuss the fundamental concepts related to electrical distribution systems. • CLO 2- Explain the role of distribution substations and related equipment. • CLO 3- Outline standard methods for power distribution to consumer installations. • CLO 4- Apply short-circuit and over-load protection principles for electrical installations a) CLO1- Discuss the fundamental concepts related to electrical distribution systems. • Principle of operation of transformers. • Explain the role of the distribution system in a power system, common distribution system layouts, and common voltages, voltage drops and regulation levels from transmission to distribution. • Discuss demand, power quality issues, calculate factors affecting design, and interpret the load curve profile for load demand. • Explain how tariff is calculated and charged consumers b) CLO2- Explain the role of distribution substations and related equipment. • Explain the function of the distribution substation in view of distribution system layout • Explain the use of transmission, grid, primary and distribution substations a power system. • Explain the use of various types of bus-bar configurations in distribution substations. • Discuss the use of cabling, transformers, circuit breakers, switches, reclosers, and sectionalisers in a distribution system. c) CLO3- Outline standard methods for power distribution to consumer installations. • Discuss commonly used methods for low voltage power supply systems (TN, TN-C, TN-C-S and TT). • Discuss the main features of a one-line, electrical installation diagram and related symbols. • Discuss electrical color codes and factors affecting cable installations. • Design an electrical feeder by (1) selecting the design current, (2) selecting the overload current protection, (3) determining the applicable correction factors, (4) selecting the current-carrying capacity of cable and cable sizing, and (5) calculating the allowable voltage drop in feeder d) CLO4- Apply short-circuit and over-load protection principles for electrical installations. • Explain the meaning of overload and over-current and methods of protection • Discuss the nature of electric shock, need for earthing, earth loop impedance, and principle of protective multiple earthing. • Explain the principles of fuse/MCB selection in relation to feeder protection under overload and short circuit fault conditions. • Explain the operation of earth leakage circuit breakers (ELCB) and residual current device (RCD).

*Reflection and Software Engineering* Jul 24 2022 This book presents the state of the art of research and development of computational reflection in the context of software engineering. Reflection has attracted considerable attention recently in software engineering, particularly from object-oriented researchers and professionals. The properties of transparency, separation of concerns, and extensibility supported by reflection have largely been accepted as useful in software development and design; reflective features have been included in successful software development technologies such as the Java language. The book offers revised versions of papers presented first at a workshop held during OOPSLA'99 together with especially solicited contributions. The papers are organized in topical sections on reflective and software engineering foundations, reflective software adaptability and evolution, reflective middleware, engineering Java-based reflective languages, and dynamic reconfiguration through reflection.

*LOGIC: Lecture Notes for Philosophy, Mathematics, and Computer Science* Feb 19 2022 This textbook is a logic manual which includes an elementary course and an advanced course. It covers more than most introductory logic textbooks, while maintaining a comfortable pace that students can follow. The technical exposition is clear, precise and follows a paced increase in complexity, allowing the reader to get comfortable with previous definitions and procedures before facing more difficult material. The book also presents an interesting overall balance between formal and philosophical discussion, making it suitable for both philosophy and more formal/science oriented students. This textbook is of great use to undergraduate philosophy students, graduate philosophy students, logic teachers, undergraduates and graduates in mathematics, computer science or related fields in which logic is required.

**Software Process: Principles, Methodology, and Technology** Apr 21 2022 1 Jean Claude Dermame Software process technology is an emerging and strategic area that has already reached a reasonable degree of maturity, delivering products and significant industrial experiences. This technology aims at supporting the software production process by providing the means to model, analyse, improve, measure, and whenever it is reasonable and convenient, to automate software production activities. In recent years, this technology has proved to be effective in the support of many business activities not directly related to software production, but relying heavily on the concept of process (i.e. all the applications traditionally associated with workflow management). This book concentrates on the core technology of software processes, its principles and concepts as well as the technical aspect of software process support. The contributions to this book are the collective work of the Promoter 2 European Working Group. This grouping of 13 academic and 3 industrial partners is the successor of Promoter, a working group responsible for creating a European software process community. Promoter 2 aims at exploiting this emerging community to collectively develop remaining open issues, to coordinate activities and to assist in the dissemination of results. The title “Software Process Modelling and Technology” [Fink94] was produced during Promoter 1. Being “project based”, it presented the main findings and proposals of the different projects then being undertaken by the partners.

*Network Calculus* Jun 30 2020 Network Calculus is a set of recent developments that provide deep insights into flow problems encountered in the Internet and in intranets. The first part of the book is a self-contained, introductory course on network calculus. It presents the core of network calculus, and shows how it can be applied to the Internet to obtain results that have physical interpretations of practical importance to network engineers. The second part serves as a mathematical reference used across the book. It presents the results from Min-plus algebra needed for network calculus. The third part contains more advanced material. It is appropriate reading for a graduate course and a source of reference for professionals in networking by surveying the state of the art of research and pointing to open problems in network calculus and its application in different fields, such as multimedia smoothing, aggregate scheduling, adaptive guarantees in Internet differential services, renegotiated reserved services, etc.

**InECCE2019** Nov 23 2019 This book presents the proceedings of the 5th International Conference on Electrical, Control & Computer Engineering 2019, held in Kuantan, Pahang, Malaysia, on 29th July 2019. Consisting of two parts, it covers the conferences' main foci: Part 1 discusses instrumentation, robotics and control, while Part 2 addresses electrical power systems. The book appeals to professionals, scientists and researchers with experience in industry. The conference provided a platform for professionals, scientists and researchers with experience in industry.

**Algorithm Engineering** Oct 27 2022 Algorithms are essential building blocks of computer applications. However, advancements in computer hardware, which render traditional computer models more and more unrealistic, and an ever increasing demand for efficient solution to actual real world problems have led to a rising gap between classical algorithm theory and algorithmics in practice. The emerging discipline of Algorithm Engineering aims at bridging this gap. Driven by concrete applications, Algorithm Engineering complements theory by the benefits of experimentation and puts equal emphasis on all aspects arising during a cyclic solution process ranging from realistic modeling, design, analysis, robust and efficient implementations to careful experiments. This tutorial - outcome of a GI-Dagstuhl Seminar held in Dagstuhl Castle in September 2006 - covers the essential aspects of this process in ten chapters on basic ideas, modeling and design issues, analysis of algorithms, realistic computer models, implementation aspects and algorithmic software libraries, selected case studies, as well as challenges in Algorithm Engineering. Both researchers and practitioners in the field will find it useful as a state-of-the-art survey.

*Performance Engineering* Aug 01 2020 Initially, computer systems performance analyses were carried out primarily because of limited resources. Due to ever increasing functional complexity of computational systems and user requirements, performance engineering continues to play a major role in software development. This book assesses the state of the art in performance engineering. Besides revised chapters drawn from two workshops on performance engineering held in 2000, additional chapters were solicited in order to provide complete coverage of all relevant aspects. The first part is devoted to the relation between software engineering and performance engineering; the second part focuses on the use of models, measures, and tools; finally, case studies with regard to concrete technologies are presented. Researchers, professional software engineers, and advanced students interested in performance analysis will find this book an indispensable source of information and reference.

*Intelligent Control and Innovative Computing* May 30 2020 A large international conference on Advances in Intelligent Control and Innovative Computing was held in Hong Kong, March March 16-18, 2011, under the auspices of the International MultiConference of Engineers and Computer Scientists (IMECS 2010). The IMECS is organized by the International Association of Engineers (IAENG). Intelligent Control and Computer Engineering contains 25 revised and extended research articles written by prominent researchers participating in the conference. Topics covered include artificial intelligence, control engineering, decision supporting systems, automated planning, automation systems, systems identification, modelling and simulation, communication systems, signal processing, and industrial applications. Intelligent Control and Innovative Computing offers the state of the art of tremendous advances in intelligent control and computer engineering and also serves as an excellent reference text for researchers and graduate students, working on intelligent control and computer engineering.

**Proceedings of the 12th International Conference on Computer Engineering and Networks** Oct 15 2021 This conference proceeding is a collection of the papers accepted by the CENet2022 – the 12th International Conference on Computer Engineering and Networks held on November 4-7, 2022 in Haikou, China. The topics focus but are not limited to Internet of Things and Smart Systems, Artificial Intelligence and Applications, Communication System Detection, Analysis and Application, and Medical Engineering and Information Systems. Each part can be used as an excellent reference by industry practitioners, university faculties, research fellows and undergraduates as well as graduate students who need to build a knowledge base of the most current advances and state-of-practice in the topics covered by this conference proceedings. This will enable them to produce, maintain, and manage systems with high levels of trustworthiness and complexity.

**Proceedings of the 4th International Conference on Computer Engineering and Networks** Dec 05 2020 This book aims to examine innovation in the fields of computer engineering and networking. The book covers important emerging topics in computer engineering and networking, and it will help researchers and engineers improve their knowledge of state-of-art in related areas. The book presents papers from the 4th International Conference on Computer Engineering and Networks (CENet2014) held July 19-20, 2014 in Shanghai, China.

**Multiobjective Optimization** Dec 17 2021 Multiobjective optimization deals with solving problems having not only one, but multiple, often conflicting, criteria. Such problems can arise in practically every field of science, engineering and business, and the need for efficient and reliable solution methods is increasing. The task is challenging due to the fact that, instead of a single optimal solution, multiobjective optimization results in a number of solutions with different trade-offs among criteria, also known as Pareto optimal or efficient solutions. Hence, a decision maker is needed to provide additional preference information and to identify the most satisfactory solution. Depending on the paradigm used, such information may be introduced before, during, or after the optimization process. Clearly, research and application in multiobjective optimization involve expertise in optimization as well as in decision support. This state-of-the-art survey originates from the International Seminar on Practical Approaches to Multiobjective Optimization, held in Dagstuhl Castle, Germany, in December 2006, which brought together leading experts from various contemporary multiobjective optimization fields, including evolutionary multiobjective optimization (EMO), multiple criteria decision making (MCDM) and multiple criteria decision aiding (MCDA). This book gives a unique and detailed account of the current status of research and applications in the field of multiobjective optimization. It contains 16 chapters grouped in the following 5 thematic sections: Basics on Multiobjective Optimization; Recent Interactive and Preference-Based Approaches; Visualization of Solutions; Modelling, Implementation and Applications; and Quality Assessment, Learning, and Future Challenges.

**Connecting with Computability** Jun 23 2022 This book constitutes the proceedings of the 17th Conference on Computability in Europe, CiE 2021, organized by the University of Ghent in July 2021. Due to COVID-19 pandemic the conference was held virtually. The 48 full papers presented in this volume were carefully reviewed and selected from 50 submissions. CiE promotes the development of computability-related science, ranging over mathematics, computer science and applications in various natural and engineering sciences, such as physics and biology, as well as related fields, such as philosophy and history of computing. CiE 2021 had as its motto Connecting with Computability, a clear acknowledgement of the connecting and interdisciplinary nature of the conference series which is all the more important in a time where people are more than ever disconnected from one another due to the COVID-19 pandemic.

**Fortran 90/95 for Scientists and Engineers** Mar 28 2020 This text examines the impact of drug-taking behavior on our society and our daily lives. The use and abuse of a wide range of licit and illicit drugs are discussed from historical, biological, psychological, and sociological perspectives. For undergraduate Drugs and Behavior courses. In today's world, drugs and their use present a social paradox, combining the potential for good and for bad. As a society and as individuals, we can be the beneficiaries of drugs or their victims. Drugs, Behavior, and Modern Society, Sixth Edition features a comprehensive review of psychoactive drugs, and is notable for the attention it gives to two aspects of drug-taking behavior that have been underreported in other texts: steroid abuse and inhalant abuse.

**Computational Collective Intelligence** May 10 2021 This volume constitutes the refereed proceedings of the 12th International Conference on Computational Collective Intelligence, ICCCI 2020, held in Da Nang, Vietnam, in November 2020.\* The 70 full papers presented were carefully reviewed and selected from 314 submissions. The papers are grouped in topical sections on: knowledge engineering and semantic web; social networks and recommender systems; collective decision-making; applications of collective intelligence; data mining methods and applications; machine learning methods; deep learning and applications for industry 4.0; computer vision techniques; biosensors and biometric techniques; innovations in intelligent systems; natural language processing; low resource languages processing; computational collective intelligence and natural language processing; computational intelligence for multimedia understanding; and intelligent processing of multimedia in web systems. \*The conference was held virtually due to the COVID-19 pandemic.

**Lecture Notes in LabVIEW and Data Acquisition** Jun 18 2019 This book summarizes LabVIEW principles and definitions, with some applications. Many of examples and reconstruction programming tools in electrical and computer engineering, controlling systems, database acquiring and data acquisition have been described in those chapters. The book has multi series as Lectures presented in the engineering colleges, which provides so many examples for both faculties / engineers and students. These are Lecture notes in very specific identifications and explanations into applications of Data acquisition deals into LabVIEW 2012.

**Advances in Computer Science for Engineering and Education IV** Jan 26 2020 This book comprises high-quality refereed research papers presented at the Fourth International Conference on Computer Science, Engineering and Education Applications (ICCSEEA2021), held in Kyiv, Ukraine, on January 23–24, 2021, organized jointly by the National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, National Aviation University, and the International Research Association of Modern Education and Computer Science. The topics discussed in the book include state-of-the-art papers in computer science, artificial intelligence, engineering techniques, genetic coding systems, deep learning with its medical applications, and knowledge representation with its applications in education. It is an excellent source of references for researchers, graduate students, engineers, management practitioners, and undergraduate students interested in computer science and their applications in engineering and education.

**Formal Methods for Industrial Critical Systems** Jul 12 2021 This book constitutes the proceedings of the 26th International Workshop on Formal Methods for Industrial Critical Systems, FMICS 2021, which was held during August 24–26, 2021. The conference was planned to take place in Paris, France. Due to the COVID-19 pandemic it changed to a virtual event. The 10 full papers and 6 short papers presented in this volume were carefully reviewed and selected from 31 submissions. The papers are organized in topical sections as follows: Verification, Program Safety and Education, (Event-)B Modeling and Validation, Formal Analysis, Tools, Test Generation and Probabilistic Verification.

**SOFSEM 2020: Theory and Practice of Computer Science** Sep 21 2019 This book constitutes the refereed proceedings of the 46th International Conference on Current Trends in Theory and Practice of Informatics, SOFSEM 2020, held in Limassol, Cyprus, in January 2020. The 40 full papers presented together with 17 short papers and 3 invited papers were carefully reviewed and selected from 125 submissions. They presented new research results in the theory and practice of computer science in the each sub-area of SOFSEM 2020: foundations of computer science, foundations of data science and engineering, foundations of software engineering, and foundations of algorithmic computational biology.

**Proceedings of the 11th International Conference on Computer Engineering and Networks** Jan 18 2022 This conference proceeding is a collection of the papers accepted by the CENet2021 – the 11th International Conference on Computer Engineering and Networks held on October 21–25, 2021 in Hechi, China. The topics focus but are not limited to Internet of Things and Smart Systems, Artificial Intelligence and Applications, Communication System Detection, Analysis and Application, and Medical Engineering and Information Systems. Each part can be used as an excellent reference by industry practitioners, university faculties, research fellows and undergraduates as well as graduate students who need to build a knowledge base of the most current advances and state-of-practice in the topics covered by this conference proceedings. This will enable them to produce, maintain, and manage systems with high levels of trustworthiness and complexity.

**Electrical Machines** Sep 26 2022 This book includes my lecture notes for electrical machines course. The book is divided to different learning parts Part 1- Apply basic physical concepts to explain the operation and solve problems related to electrical machines. Part 2- Explain the principles underlying the performance of three-phase electrical machines. Part 3- Analyse, operate and test three-phase induction machines. Part 4- Investigate the performance, design, operation, and testing of the three-phase synchronous machine. Part 1: Apply basic physical concepts to explain the operation and solve problems related to electrical machines. Describe the construction of simple magnetic circuits, both with and without an air gap. Explain the basic laws which govern the electrical machine operation, such as Faraday's Law, Ampere-Biot-Savart's Law, and Lenz's Law. Apply Faraday's Law of electromagnetic induction, Ampere-Biot-Savart's Law, and Lenz's Law to solve for induced voltage and currents in relation to simple magnetic circuits with movable parts. Illustrate the principle of the electromechanical energy conversion in magnetic circuits with movable parts. Part 2: Explain the principles underlying the performance of three-phase electrical machines. Compare and contrast concentric and distributed windings in three-phase electrical machines. Identify the advantages of distributed windings applied to three-phase machines. Explain how the pulsating and rotating magnetic fields are produced in distributed windings. Calculate the synchronous speed of a machine based on its number of poles and frequency of the supply. Describe the process of torque production in multi-phase machines. Part 3: Analyse, operate and test three-phase induction machines. Calculate the slip of an induction machine given the operating and synchronous speeds. Calculate and compare between different torques of a three-phase induction machine, such as the locked rotor or starting torque, pull-up torque, breakdown torque, full-load torque or braking torque. Develop and manipulate the equivalent circuit model for the three-phase induction machine. Analyse, and test experimentally, the torque-speed and current-speed characteristics of induction machines, and discuss the effects of varying such motor parameters as rotor resistance, supply voltage and supply frequency on motor torque-speed characteristics. Perform no-load and blocked rotor tests in order to determine the equivalent circuit parameters of an induction machine. Explore various techniques to start an induction motor. Identify the applications of the three-phase induction machines in industry and utility. Classify the insulations implemented in electrical machines windings and identify the factors affecting them. Part 4. Investigate the performance, design, operation, and testing of the three-phase synchronous machine. Describe the construction of three-phase synchronous machines, particularly the rotor, stator windings and the rotor saliency. Develop and manipulate an equivalent circuit model for the three-phase synchronous machine. Sketch the phasor diagram of a non-salient poles synchronous machine operating at various modes operation, such as no-load operation, motor operation, and generator operation. Investigate the influence of the rotor saliency on machine performance. Perform open and short circuit tests in order to determine the equivalent circuit parameters of a synchronous machine. Identify the applications of the three-phase synchronous machines in industry and utility List and explain the conditions of parallel operation of a group of synchronous generators. Evaluate the performance of the synchronous condenser and describe the power flow control between a synchronous condenser and the utility in both modes: over and under excited. Explain the principles of controlling the output voltage and frequency of a synchronous generator.

**Network Performance Engineering** Jan 06 2021 During recent years a great deal of progress has been made in performance modelling and evaluation of the Internet, towards the convergence of multi-service networks of diverging technologies, supported by internetworking and the evolution of diverse access and switching technologies. The 44 chapters presented in this handbook are revised invited works drawn from PhD courses held at recent HETNET's International Working Conferences on Performance Modelling and Evaluation of Heterogeneous Networks. They constitute essential introductory material preparing the reader for further research and development in the field of performance modelling, analysis and engineering of heterogeneous networks and of next and future generation Internets. The handbook aims to unify relevant material already known but dispersed in the literature, introduce the readers to unfamiliar and unexposed research areas and, generally, illustrate the diversity of research found in the high growth field of convergent heterogeneous networks and the Internet. The chapters have been broadly classified into 12 parts covering the following topics: Measurement Techniques; Traffic Modelling and Engineering; Queuing Systems and Networks; Analytic Methodologies; Simulation Techniques; Performance Evaluation Studies; Mobile, Wireless and Ad Hoc Networks, Optical Networks; QoS Metrics and Algorithms; All IP Convergence and Networking; Network Management and Services; and Overlay Networks.

**Advances in Electrical and Computer Technologies** Feb 25 2020 This book comprises select proceedings of the International Conference on Advances in Electrical and Computer Technologies 2020 (ICAECT 2020). The papers presented in this book are peer-reviewed and cover latest research in electrical, electronics, communication and computer engineering. Topics covered include smart grids, soft computing techniques in power systems, smart energy management systems, power electronics, feedback control systems, biomedical engineering, geo informative systems, grid computing, data mining, image and signal processing, video processing, computer vision, pattern recognition, cloud computing, pervasive computing, intelligent systems, artificial intelligence, neural network and fuzzy logic, broad band communication, mobile and optical communication, network security, VLSI, embedded systems, optical networks and wireless communication. The volume can be useful for students and researchers working in the different overlapping areas of electrical, electronics and communication engineering.

**Electric Power Transmission** Feb 07 2021 This book includes my lecture notes for electrical power transmission course. The power transmission process, from generation to distribution is described and expressions for resistance, inductance and capacitance of high-voltage power transmission lines are developed used to determine the equivalent circuit of a three-phase transmission line. The book is divided to different learning outcomes Part 1- Describe the power transmission process, from generation to distribution. Part 2- Develop expressions for resistance, inductance and capacitance of high-voltage power transmission lines and determine the equivalent circuit of a three-phase transmission line. Part 1: Describe the power transmission process, from generation to distribution. Describe the components of an electrical power system. Identify types of power lines, standard voltages, and components of high-voltage transmission lines (HVTL). Describe the construction of a transmission line, galloping lines, corona effect, insulator pollution, and lightning strikes. Explain transmission system stability in regards to power transfer, power flow division, and transfer impedance. Part 2: Develop expressions for resistance, inductance and capacitance of high-voltage power transmission lines and determine the equivalent circuit of a three-phase transmission line. List the types of conductors used in power transmission line. Develop the expression for the inductance and capacitance of a simple, single-phase, two wire transmission line composed of solid round conductors. Deduce the expression for the inductance and capacitance of a simple, single-phase composite (stranded) conductor line. Derive the expression for the inductance and capacitance of three-phase lines having symmetrically and asymmetrically spacing and for bundled conductors. Discuss the effect of earth on the capacitance of three-phase transmission lines. Derive the short transmission lines models and medium transmission lines models.

**Software Engineering for Self-Adaptive Systems** Aug 13 2021 The carefully reviewed papers in this state-of-the-art survey describe a wide range of approaches coming from different strands of software engineering, and look forward to future challenges facing this ever-resurgent and exacting field of research.

**Computer Networks, Big Data and IoT** Dec 25 2019 This book presents best selected research papers presented at the International Conference on Computer Networks, Big Data and IoT (CCBI 2020), organized by Vaigai College Engineering, Madurai, Tamil Nadu, India, during 15–16 December 2020. The book covers original papers on computer networks, network protocols and wireless networks, data communication technologies and network security. The book is a valuable resource and reference for researchers, instructors, students, scientists, engineers, managers and industry practitioners in those important areas.

**Innovations in Computer Science and Engineering** Sep 14 2021 This book features a collection of high-quality, peer-reviewed research papers presented at the 8th International Conference on Innovations in Computer Science & Engineering (ICICSE 2020), held at Guru Nanak Institutions, Hyderabad, India, on 28–29 August 2020. It covers the latest research in data science and analytics, cloud computing, machine learning, data mining, big data and analytics, information security and privacy, wireless and sensor networks and IoT applications, artificial intelligence, expert systems, natural language processing, image processing, computer vision and artificial neural networks.

**Computer Engineering and Networking** Nov 04 2020 This book aims to examine innovation in the fields of computer engineering and networking. The book covers important emerging topics in computer engineering and networking, and it will help researchers and engineers improve their knowledge of state-of-art in related areas. The book presents papers from The Proceedings of the 2013 International Conference on Computer Engineering and Network (CENet2013) which was held on 20–21 July, in Shanghai, China.

**Proceedings of the 6th International Conference on Electrical, Control and Computer Engineering** Aug 25 2022 This book presents the proceedings of the 6th International Conference on Electrical, Control and Computer Engineering (InECE 2021), held in Kuantan, Pahang, Malaysia, on 23 August 2021. The topics covered are sustainable energy, power electronics and drives and power engineering including distributed/renewable generation, power system optimization, artificial/computational intelligence, smart grid, power system protection and machine learning energy management and conservation. The book showcases some of the latest technologies and applications developed to solve local energy and power problems in order to ensure continuity, reliability and security of electricity for future generations. It also links topics covered the sustainable developed goals (SDGs) areas outlined by the United Nation for global sustainability. The book will appeal to professionals, scientists and researchers with experience in industry.

**An Introduction to Python and Computer Programming** Oct 23 2019 This book introduces Python programming language and fundamental concepts in algorithms and computing. Its target audience includes students and engineers with little or no background in programming, who need to master a practical programming language and learn the basic thinking in computer science/programming. The main contents come from lecture notes for engineering students from all disciplines, and has received high ratings. Its materials and ordering have been adjusted repeatedly according to classroom reception. Compared to alternative textbooks in the market, this book introduces the underlying Python implementation of number, string, list, tuple, dict, function, class, instance and module objects in a consistent and easy-to-understand way, making assignment, function definition, function call, mutability and binding environments understandable inside-out. By giving the abstraction of implementation mechanisms, this book builds a solid understanding of the Python programming language.

**Computer Science and Convergence** Aug 21 2019 Computer Science and Convergence is proceedings of the 3rd FTRA International Conference on Computer Science and its Applications (CSA-11) and The 2011 FTRA World Convergence Conference (FTRA WCC 2011). The topics of CSA and WCC cover the current hot topics satisfying the world-wide ever-changing needs. CSA-11 will be the most comprehensive conference focused on the various aspects of advances in computer science and its applications and will provide an opportunity for academic and industry professionals to discuss the latest issues and progress in the area of CSA. In addition, the conference will publish high quality papers which are closely related to the various theories and practical applications in CSA. Furthermore, we expect that the conference and its publications will be a trigger for further related research and technology improvements in this important subject. The main scope of CSA-11 is as follows: - Mobile and ubiquitous computing - Dependable, reliable and autonomic computing - Security and trust management - Multimedia systems and services - Networking and communications - Database and data mining - Game and software engineering - Grid, cloud and scalable computing - Embedded system and software - Artificial intelligence - Distributed and parallel algorithms - Web and internet computing - IT policy and business management WCC-11 is a major conference for scientists, engineers, and practitioners throughout the world to present the latest research, results, ideas, developments and applications in all areas of convergence technologies. The main scope of WCC-11 is as follows: - Cryptography and Security for Converged environments - Wireless sensor network for Converged environments - Multimedia for Converged environments - Advanced Vehicular Communications Technology for Converged environments - Human centric computing, P2P, Grid and Cloud computing for Converged environments - U-Healthcare for Converged environments - Strategic Security Management for Industrial Technology - Advances in Artificial Intelligence and Surveillance Systems

