The field of visible light communication (VLC) has diverse applications to the end user including streaming audio, video, high-speed data browsing, voice over internet and online gaming. This comprehensive textbook discusses fundamental aspects, research activities and modulation techniques in the field of VLC. Visible Light Communication: A Comprehensive Theory and Applications with MATLAB® discusses topics including line of sight (LOS) propagation model, non-line of sight (NLOS) propagation model, carrier less amplitude and phase modulation, multiple-input-multiple-output (MIMO), non-linearities of optical sources, orthogonal frequency-division multiple access, non-orthogonal multiple access and single-carrier frequency-division multiple access in depth. Primarily written for senior undergraduate and graduate students in the field of electronics and communication engineering for courses on optical wireless communication and VLC, this book: Provides up-to-date literature in the field of VLC Presents MATLAB codes and simulations to help readers understand simulations Discusses applications of VLC in enabling vehicle to vehicle (V2V) communication Covers topics including radio frequency (RF) based wireless communications and VLC Presents modulation formats along with the derivations of probability of error expressions pertaining to different variants of optical OFDM

Aluminium Cast House Technology: Eighth Australasian Conference

This book constitutes the thoroughly refereed post-conference proceedings of the 4th International Conference on Mobile, Secure, and Programmable Networking, held in Paris, France, in June 2018. The 27 papers presented in this volume were carefully reviewed and selected from 52 submissions. They discuss new trends in networking infrastructures, security, services and applications while focusing on virtualization and cloud computing for networks, network programming, software defined networks (SDN) and their security.
This book presents high-quality research on the concepts and developments in the field of information and communication technologies, and their applications. It features 134 rigorously selected papers (including 10 poster papers) from the Future of Information and Communication Conference 2020 (FICC 2020), held in San Francisco, USA, from March 5 to 6, 2020, addressing state-of-the-art intelligent methods and techniques for solving real-world problems along with a vision of future research. Discussing various aspects of communication, data science, ambient intelligence, networking, computing, security and Internet of Things, the book offers researchers, scientists, industrial engineers and students valuable insights into the current research and next generation information science and communication technologies.

Visible Light Communication (VLC) is an emerging wireless data transmission technology. Light is used simultaneously for illumination as well as for communication and/or positioning purposes. If fully networked, dubbed Li-Fi, VLC systems complement Wi-Fi access points. VLC is an incident of optical wireless communications (OWC). OWC systems provide high data security, are license-free, and may substitute radio systems when these either fail or are not permitted. VLC technology enhances smart lighting infrastructure and Internet-of-Things (IoT) use cases. LED-based Car-to-X communication is an enabling platform towards autonomous driving. The workbook covers exercises of OWC applications, fundamentals of illumination engineering, channel modeling, optical intensity modulation schemes, VLC standardization efforts, the software-defined radio concept, selection criteria of photonic devices, fundamental circuit designs, and visible light positioning. The training manual is written for students in electrical and information engineering or adjacent areas, as well as for engineers, information scientists, and physicists in research and development.

This book constitutes the thoroughly refereed proceedings of the 8th International Congress on Telematics and Computing, WITCOM 2019, held in Merida, Mexico, in November 2019. The 31 full papers presented in this volume were carefully reviewed and selected from 78 submissions. The papers are organized in topical sections: GIS & climate change; telematics & electronics; artificial intelligence & machine learning; software engineering & education; internet of things; and informatics security.

This book provides a comprehensive overview for the use of femtocells in smart Internet of Things (IoT) environments. Femtocells will help mobile operators to provide a basis for the next generation of services which are a combination of voice, video, and data services to mobile users. This book discusses modelling traffic and deployment strategies in femtocells and provides a review for the use of femtocells and their applications in IoT environments. Moreover, it highlights the efficient real-time medium access, data delivery, caching and security aspects in smart spaces. It concludes by presenting open research issues associated with smart IoT-femtocell based applications.

Occasionally reissued with the same ISBN but with slightly differing bibliographical details.

Following the prohibition of missionary activity after 1724, China’s Christians were effectively cut off from all foreign theological guidance. The ensuing isolation forced China’s Christian communities to become self-reliant in perpetuating the basic principles of their faith. Left to their own devices, the missionary seed developed into a panoply of indigenous traditions, with Christian ancestry as the common denominator. Christianity thus underwent the same process of inculturation as previous religious traditions in China, such as Buddhism and Judaism. As the guardian of orthodox morality, the prosecuting state sought to exercise all-pervading control over popular thoughts and social functions. Filling the gap within the discourse of Christianity in China and also as part of the wider analysis of religion in late Imperial China, this study presents the campaigns against Christians during this period as part and parcel of the campaign against ‘heresy’ and ‘heretical’ movements in general.

Digitale Geschäftsmodelle und die damit verbundenen Änderungen stellen Unternehmen vor vielfältige Herausforderungen. Daher geht das zweibändige Herausgeberwerk zentralen Fragen nach: Wie kann die Transformation im Unternehmen hin zu digitalen Geschäftsmodellen erfolgreich gelingen? Wie müssen digitale Geschäftsmodelle in die Unternehmensstrategie

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The book focuses on soft computing and its applications to solve real-world problems in different domains, ranging from medicine and health care, to supply chain management, image processing and cryptanalysis. It includes high-quality papers presented at the International Conference on Soft Computing: Theories and Applications (SoCTA 2018), organized by Dr. B. R. Ambedkar National Institute of Technology, Jalandhar, Punjab, India. Offering significant insights into soft computing for teachers and researchers alike, the book inspires more researchers to work in the field of soft computing.

The book is a collection of best papers presented in the Second International Conference on Microelectronics Electromagnetics and Telecommunication (ICMEET 2016), an international colloquium, which aims to bring together academic scientists, researchers and research scholars to discuss the recent developments and future trends in the fields of microelectronics, electromagnetics and telecommunications. Microelectronics research investigates semiconductor materials and device physics for developing electronic devices and integrated circuits with data/energy efficient performance in terms of speed, power consumption, and functionality. The book discusses various topics like analog, digital and mixed signal circuits, bio-medical circuits and systems, RF circuit design, microwave and millimeter wave circuits, green circuits and systems, analog and digital signal processing, nano electronics and giga scale systems, VLSI circuits and systems, SoC and NoC, MEMS and NEMS, VLSI digital signal processing, wireless communications, cognitive radio, and data communication.

Takes us into the bizarre and often humorous lives of such people as Lady Blount, who was sure that the earth is flat, Cyrus Teed, who believed that the earth is a hollow shell with us in the inside; Edward Hine, who believed that the British are the lost Tribes of Israel; and Baron de Guldenstubbe, who was sure that statues wrote him letters. British writer and housewife Nesta Webster devoted her life to exposing international conspiracies, and Father O'Callaghan devoted his to opposing interest on loans. The extraordinary characters in this book were and in some cases still are wholehearted enthusiasts for the various causes and outrageous notions they adopted, and John Michell describes their adventures with spirit and compassion.

The book covers a wide range of wireless communication and network technologies, and will help readers understand the role of wireless technologies in applications touching on various spheres of human life, e.g. healthcare, agriculture, building smart cities, forecasting and the manufacturing industry. The book begins by discussing advances in wireless communication, including emerging trends and research directions for network technologies. It also highlights the importance of and need to actively develop these technologies. In turn, the book addresses different algorithms and methodologies which could be beneficial in implementing 5G Mobile Communication, Vehicular Ad-hoc Networks (VANET), Reliable Cooperative Networks, Delay Tolerant Networks (DTN) and many more contexts related to advanced communications. It then addresses the prominence of wireless communication in connection with the Internet of Things (IoT), Mobile Opportunistic Networks and Cognitive Radio Networks (CRN). Lastly, it presents the new horizons in architecture and building protocols for Li-Fi (Light-Fidelity) and Wearable Sensor Technology.

This book outlines the development of safety and cybersecurity, threats and activities in automotive vehicles. This book discusses the automotive vehicle applications and technological aspects considering its cybersecurity issues. Each chapter offers a suitable context for understanding the complexities of the connectivity and cybersecurity of intelligent and autonomous vehicles. A top-down strategy was adopted to introduce the vehicles’ intelligent features and functionality. The area of vehicle-to-everything (V2X) communications aims to exploit the power of ubiquitous connectivity for the traffic safety and transport efficiency. The chapters discuss in detail about the different levels of autonomous vehicles, different types of cybersecurity issues, future trends and challenges in autonomous vehicles. Security must be thought as an important aspect during designing and implementation of the autonomous vehicles to prevent from numerous security threats and attacks. The book thus provides important information on the cybersecurity challenges faced by the autonomous vehicles and it
This book aims to provide an outline of most aspects of cybersecurity in intelligent and autonomous vehicles. It is very helpful for automotive engineers, graduate students and technological administrators who want to know more about security technology as well as to readers with a security background and experience who want to know more about cybersecurity concerns in modern and future automotive applications and cybersecurity. In particular, this book helps people who need to make better decisions about automotive security and safety approaches. Moreover, it is beneficial to people who are involved in research and development in this exciting area. As seen from the table of contents, automotive security covers a wide variety of topics. In addition to being distributed through various technological fields, automotive cybersecurity is a recent and rapidly moving field, such that the selection of topics in this book is regarded as tentative solutions rather than a final word on what exactly constitutes automotive security. All of the authors have worked for many years in the area of embedded security and for a few years in the field of different aspects of automotive safety and security, both from a research and industry point of view.

Leading researchers in the field of cellular manufacturing systems from academia and industry have contributed to this volume. The book aims to report the latest developments and address the central issues in the design and implementation of cellular manufacturing systems. Cellular Manufacturing (CM) is one of the major concepts used in the design of flexible manufacturing systems. CM, also known as group production or family programming, can be described as a manufacturing technique that produces families of parts within a single line or cell of machines. The first part of the book describes various techniques for design and modeling of cellular manufacturing systems. The second part is concerned with performance measure and analysis, followed by a section which presents the applications of artificial intelligence and computer tools in cellular manufacturing systems.