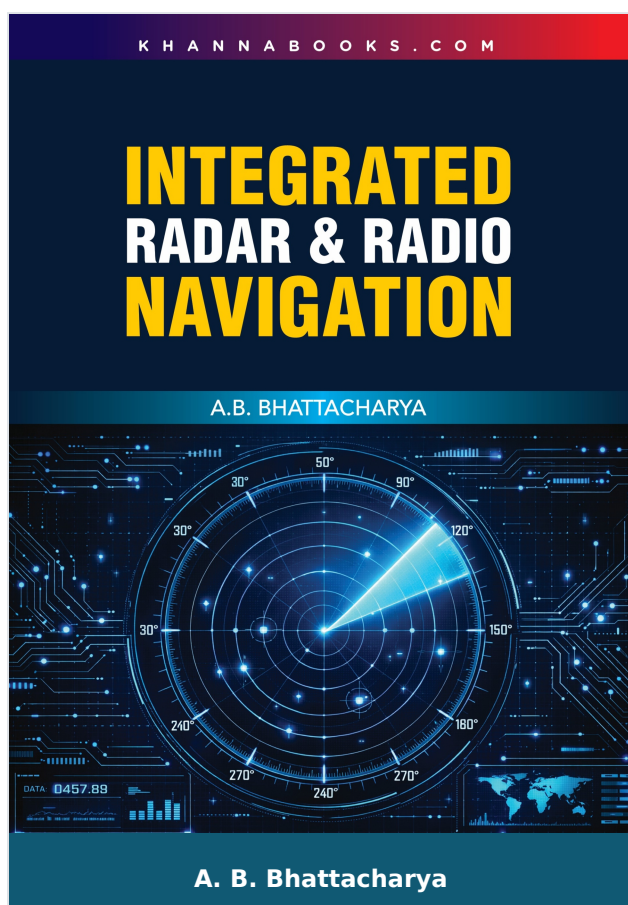




Integrated Radar & Radio Navigation

Author :	A. B. Bhattacharya
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Condition Type :	New
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Product Description

Integrated Radar and Radio Navigation: From Classroom Fundamentals to Industry Frontiers by Prof. A.B. Bhattacharya is a comprehensive guide designed to bridge the gap between academic theory and modern industrial application. The text provides a unified exploration of radar systems, satellite-based GNSS, and ground-based radio aids, offering a holistic view of modern navigation architecture. It is specifically tailored for students in electronics, communication, and aviation engineering, as well as professionals seeking to align with global standards like ICAO and IMO.

The book moves beyond traditional pedagogy by integrating AI-enabled autonomous platforms and quantum navigation concepts. With a focus on practical mastery, it features numerous numerical problems, MCQs, and real-world project ideas. This blend of foundational electromagnetic principles and cutting-edge technological trends ensures readers are well-equipped for the evolving demands of the aerospace and maritime sectors.

Salient Features

- **Unified Navigation Architecture:** Explores the integration of radar, radio aids, and GNSS to ensure high-integrity positioning for modern maritime and aviation operations.
- **Global Standard Alignment:** Content is meticulously mapped to international regulatory frameworks, including ICAO, IMO, and IEEE, ensuring industry-relevant professional knowledge.
- **Practical Problem-Solving:** Includes a robust collection of solved numericals, short-answer questions, and MCQs designed to reinforce core technical concepts and examination readiness.
- **Project-Based Learning:** Features innovative "Project Ideas" covering UAV navigation and collision avoidance, helping students translate theoretical knowledge into functional

engineering solutions.

- **Advanced Radar Technologies:** Provides in-depth coverage of Phased Array Radar, SAR, and AESA systems, essential for modern surveillance and remote sensing applications.
- **Satellite Constellation Expertise:** Offers detailed analysis of GPS, GLONASS, and Galileo systems, including signal processing, error correction, and differential augmentation techniques.
- **Future-Ready Innovations:** Addresses emerging frontiers such as Quantum Navigation and AI-driven sensor fusion, preparing readers for the next generation of autonomous systems.
- **Multi-Domain Utility:** Delivers versatile insights applicable across civil aviation, defense, maritime safety, and space exploration, making it a comprehensive reference for various sectors

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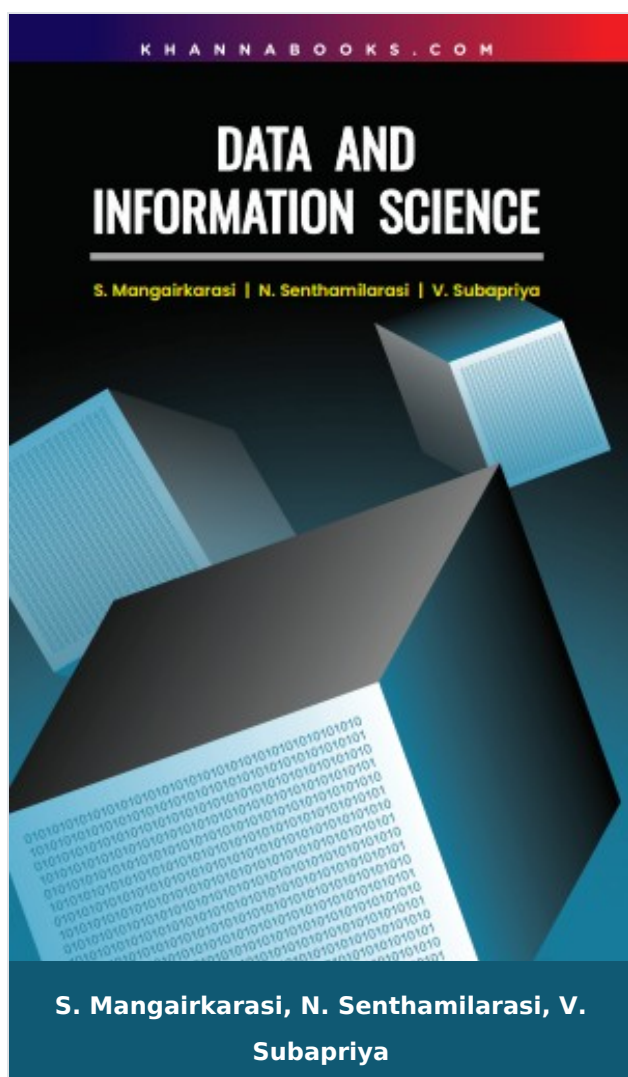
- Preface
- Acknowledgement
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- Ground-Based Radio Navigation Systems
- Satellite-Based Navigation Systems
- Integrated Navigation Systems
- Airborne Radar and Navigation Systems
- Maritime Radar and Radio Navigation
- Navigation in Space and Remote Sensing Applications
- Trends, Challenges and Future Directions
- Appendices

Author

A. B. Bhattacharya

Prof. A. B. Bhattacharya did his MSc and PhD degree from the University of Calcutta in Physics and Post-doc from the Massachusetts Institute of Technology (MIT), Cambridge, USA. He worked in close collaboration with the leading laboratories like Lincoln Laboratory; Milestone Hill Observatory; Earth, Atmospheric and Planetary Sciences division of MIT and many other well recognized laboratories in India and abroad. He served as Professor & Head of the Department of Physics, University of Kalyani; Dean of

Research and Head of the ECE Department, Techno India University; Pro Vice Chancellor of JIS University and Director of Brainware University. He has published 32 text books for Science and Engineering students, two popular books for general readers and over 400 research articles in reputed International Journals. Under his supervision 24 scholars received their doctoral degree. He is a fellow of the Institute of Electronics and Telecommunication Engineers and member of many scientific organizations. India International Friendship Society awarded him the prestigious "Shiksha Ratna Award" and Certificate of Excellence for meritorious services, outstanding performance and significant contribution to education. The International Institute of Success Awareness honored him with their globally recognized "Glory of India Gold Medal" for his outstanding contribution to the national stature of India. A few words from the certificate issued by Prof. Williams of MIT may be quoted "Our collaborative effort was directed at the wavelength dependence of radar echoes observations with the Millstone Hill UHF radar in Westford. He made use of the Charles River Data System computer in the Weather Radar Laboratory for these calculations. His results help to make a convincing case that the volume reflectivity associated with lighting is a diminishing function of radar wavelength, contrary to contemporary thinking". Dr.



Data and Information Science

Author :	S. Mangairkarasi, N. Senthamilarasi, V. Subapriya
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Condition Type :	New
Country Origin :	India

Product Description

Data and Information Science

This book provides a comprehensive and practical guide to the multidisciplinary fields of data science and information science. In an increasingly data-driven world, the text addresses the critical need to understand, manage, and extract actionable value from massive data sets in sectors ranging from business to government. It is an essential resource for students, professionals, and hobbyists seeking to master the techniques of this transformative domain. The book systematically explores the entire data lifecycle, from initial data acquisition, preprocessing, and cleaning to advanced subjects like Artificial Intelligence, Big Data Analytics, and Data Ethics.

It successfully bridges the gap between theoretical concepts and practical application by detailing key methodologies, essential tools of Business Intelligence (BI), and providing real-world insights. Readers will gain an in-depth understanding of how to combine computer science, statistics, and machine learning principles to detect patterns, predict outcomes, and drive superior decision-making. Ultimately, this material is designed to equip you with the critical skills needed to utilize data effectively, spur creativity, and confidently participate in the ongoing data-driven revolution.

Salient Features:

- **Full Data Lifecycle:** Presents a complete framework covering all steps of the data lifecycle, from acquisition sources (Web APIs, Relational Databases) to data processing and final analysis.
- **Practical Tool Focus:** Integrates practical tools and libraries like Pandas, NumPy, and Matplotlib for real-world data preparation and implementation in Machine Learning models.

- **Data Quality Mastery:** Offers detailed strategies for improving data quality, including Data Wrangling, handling missing values, and utilizing Binning, Regression, and Clustering for noisy data.
- **Big Data Principles:** Introduces the fundamental concepts and challenges of Big Data (Volume, Variety, Velocity) and discusses effective strategies for processing and utilizing massive datasets.
- **Text Analysis Techniques:** Dedicated coverage of text-based data handling, exploring methods such as Bag of Words, Regular Expressions, and the practical application of Sentiment Analysis.
- **Visualization and BI:** Provides essential skills in data visualization basics, including creating compelling charts and dashboards using the leading Business Intelligence tool, Tableau.
- **Data Transformation Depth:** Explores the nuances of data transformation, detailing structural changes, normalization, discretization, and the difference between ETL and ELT processes.
- **Open Data Resources:** Highlights key sources for obtaining data, including internal/external systems, Cloud Data Warehouses, and open-source repositories like Kaggle and the UCI Machine Learning Repository.

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- Data Acquisition
- Data Processing and Preparation
- Data Quality and Transformation
- Handling Text Data
- Business Intelligence Strategy and Road Map

Author

S. Mangairkarasi

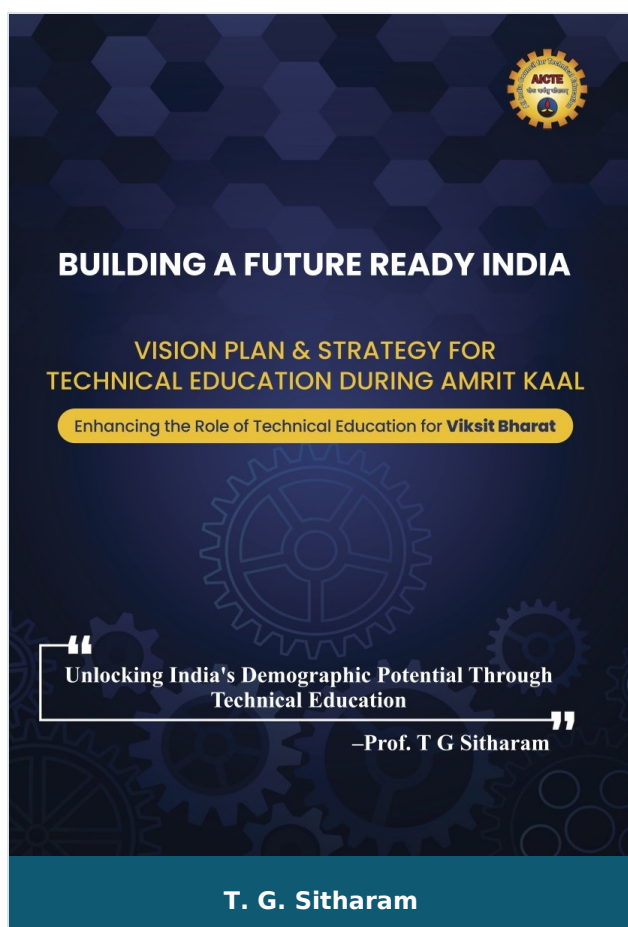
S. Mangairkarasi Associate Professor, Dept of CSE, Sathyabhama Institute of Science and Technology

N. Senthamilarasi

N. Senthamilarasi Associate Professor, Dept of CSE, Sathyabhama Institute of Science and Technology

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Building a Future Ready India

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Product Description

In the rapidly evolving landscape of technical education, the year 2047 stands as a pivotal juncture for India. This book delves into the transformational journey of technical education over the past few decades, offers insights on vision, plan and strategy for technical education in India, harnesses the potential of technical education in nation building and foresight into the innovations, challenges, and possibilities that have defined this dynamic era. The significance of technical education has soared to unprecedented heights in the last few years. India envisions a holistic Technical Education System that produces globally competitive skilled technical professionals. With the rise of artificial intelligence, quantum computing and sustainable engineering solutions, a paradigm shift is necessary to impart skill based knowledge and prepare future generations. This book is an attempt to understand the key elements of Technical Education which includes 'Quality Education, Leveraging Technology, Integration of Skill in Curriculum, Promotion of R&D, Innovation in Pedagogy, Industry- Academia Collaboration etc. Drawing upon the collective wisdom of visionaries, educators, and pioneers in the field, this book endeavors to illuminate the transformative forces shaping technical education. It seeks to inspire educators, students, policymakers, and innovators alike to envision and create a future where learning is agile, inclusive, and empowers individuals to thrive in an ever-evolving world.

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- Executive Summary.
- Importance of Technical Education.
- Overview of Growth of Technical Education in India.
- Vision for Technical Education in India by 2047.
- Challenges Faced in Technical Education & How to Overcome Them.
- Impact of Technical Education on Achievement of SDG Goals.
- Enhancing Role of Govt. & Technical Education in Nation Building.
- Best Practices in Technical Education from Around the World.
- Need for Curriculum Reform & Building Robust Research Ecosystem.
- Enhancing Quality of Technical Education through Accreditation and Quality Assurance.
- Attracting and Retaining Talented Faculty for Technical Education.
- Developing Skilled & Job-Ready Workforce through Technical Education.
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- Leveraging Technology to Enhance Teaching and Learning in Technical Education.
- Importance of Industry-Academia Collaboration in Technical Education.
- Promoting Entrepreneurship and Start-up Culture through Technical Education.
- Building a Global Reputation for Technical Education in India.
- Role of NGOs, Private Sector in Technical Education in India.
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- Developing Sustainable Infrastructure for Technical Education in India.
- Strengthening Technical Education in Emerging Fields such as AI, IoT, Robotics, Cyber security, Quantum computing, Data analytics, UI/UX.
- Bridging the Skill Gap through Apprenticeship and Internship Program.

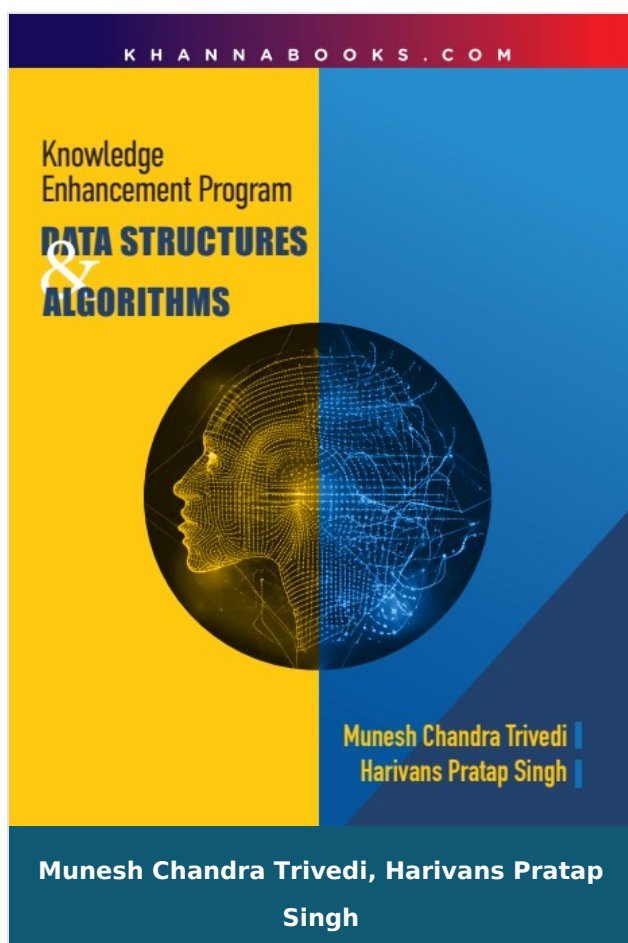
- Role of Incubation Centers & Accelerators in Supporting Start-ups.
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Author

T. G. Sitharam

T. G. Sitharam is a civil engineer, professor at IISc Bangalore, former director at IIT Guwahati. Currently, he is serving as Chairman of the All India Council for Technical Education, (AICTE) from 1 December 2002 onwards. He is known for his works in the fields of rock mechanics, rock engineering geotechnical earthquake engineering. He is an

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Data Structures & Algorithms (Knowledge Enhancement Program)

Author : Munesh Chandra Trivedi, Harivans Pratap Singh

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Product Description

My Book of Data Structures and Algorithms in a comprehensive and learner-friendly guide crafted for students, professionals, and aspirants preparing for GATE, competitive coding, and IT interviews. It serves as both an academic companion and a practical reference manual for mastering the foundational and advanced concepts of data structures and algorithm design. Rooted in real-world problem-solving, the book seamlessly blends theoretical clarity with hands-on implementation across languages like C, C++, Java and Python. Designed in alignment with university syllabi and modern industry requirements, this book is ideal for readers at all levels- from engineering undergraduates to working professionals aiming to sharpen their algorithmic thinking.

KEY FEATURES OF THE BOOK

- Complete and Structured Coverage
- Concept-Building through Intuition and Examples
- Programming Language Support
- GATE, Coding Interviews & Competitive Programming Ready
- Problem-Solving and Hands-On Practice
- Core Topics Covered in Detail
- Time and Space Complexity Focused
- Visual Learning Aids
- Latest and Trending Concepts
- Academic and Industry Alignment
- Chapter – End Revision Boosters

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- STACK
- QUEUE
- GRAPH
- TREE AND TRIES

Author

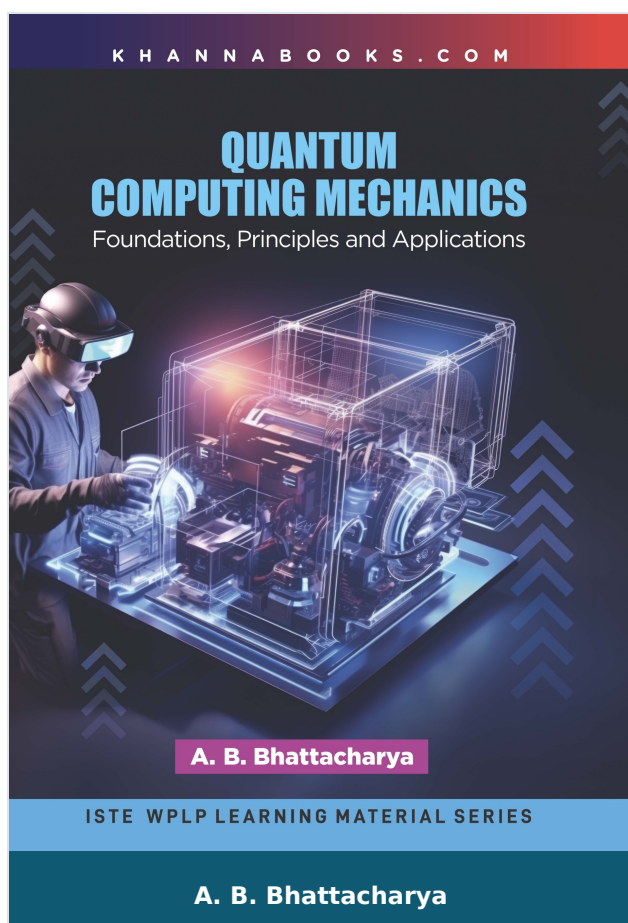
Munesh Chandra Trivedi

Dr. Munesh Chandra Trivedi has more than 20 years of experience in the field of computer science & Engineering and has worked in Prestigious Institutions. He has more than 10 years' experience in various administrative responsibilities e.g., Dean (academics), Head of Department, TEQIP-111 Coordinator, PG coordinator, EDC cell Coordinator. Currently working Tripura, India, and Associate Professor and HoD (IT), Rajkiya Engineering College, Azamgarh, up (state Govt Institution of UP) with the additional responsibility of Dean Academics of the institute & Associate Dean UG Programs, Dr. APJ Abdul Kalam Technical University, Lucknow (State Technical University). He was also the Director (In-charge) at Rajkiya Engineering College, Azamgarh. He had successfully filed 81 patents (65 National and 16 International Patents (Germany, South Africa, and Australia)), out of which 40 patents were granted. He has published 12 textbooks and 168 research papers in different International Journals and proceedings of repute. He has also edited 38 books for springer Nature. He successfully supervised 14 PhD students and received numerous awards, including the Young scientist

Visiting Fellowship, Albert Einstein Research scientist Award, Best senior Faculty Award, Outstanding Scientist, Dronacharya Award, Author of the Year, and vigyan Ratan award from different national, as well as international forums. He has organized more than 32 international conferences technically sponsored by IEEE, ACM, AND Springer. Dr.

Harivans Pratap Singh

Dr. Harivans Pratap Singh continues to make significant contributions to research, innovation, and enterprise solutions on a global scale.



Quantum Computing Mechanics(Foundations, Principles and Applications)

Author :	A. B. Bhattacharya
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Product Description

Quantum Computing Mechanics(Foundations, Principles and Applications) **Unlock the Quantum Frontier Quantum Computing Mechanics:** Foundations, Principles and Applications is a comprehensive journey into the heart of one of the 21st century's most transformative scientific revolutions. Bridging the disciplines of quantum mechanics and computational theory, this book presents a lucid and in-depth exploration of quantum computing—from its theoretical foundations to its real-world applications. **Whether you are a curious student, a passionate researcher, or an industry professional, this volume offers:**

- A rigorous yet accessible introduction to the principles of quantum mechanics and how they power next-generation computation.
- Core topics like qubits, quantum gates, superposition, entanglement, and interference, laid out clearly with diagrams, examples, and circuit design.
- Step-by-step walkthroughs of groundbreaking quantum algorithms including Grover's, Shor's, and the Quantum Fourier Transform.
- Essential coverage of error correction, fault tolerance, and the global push toward quantum supremacy.
- Extensive practice sections with short questions, multiple-choice quizzes, solved numerical problems, and innovative project ideas—making it ideal for self-study or academic use.

From the roots of classical logic to the surreal domain of entangled qubits, **Quantum Computing Mechanics** brings clarity to complexity. It does not merely teach you what quantum computing is—it shows you why it matters.

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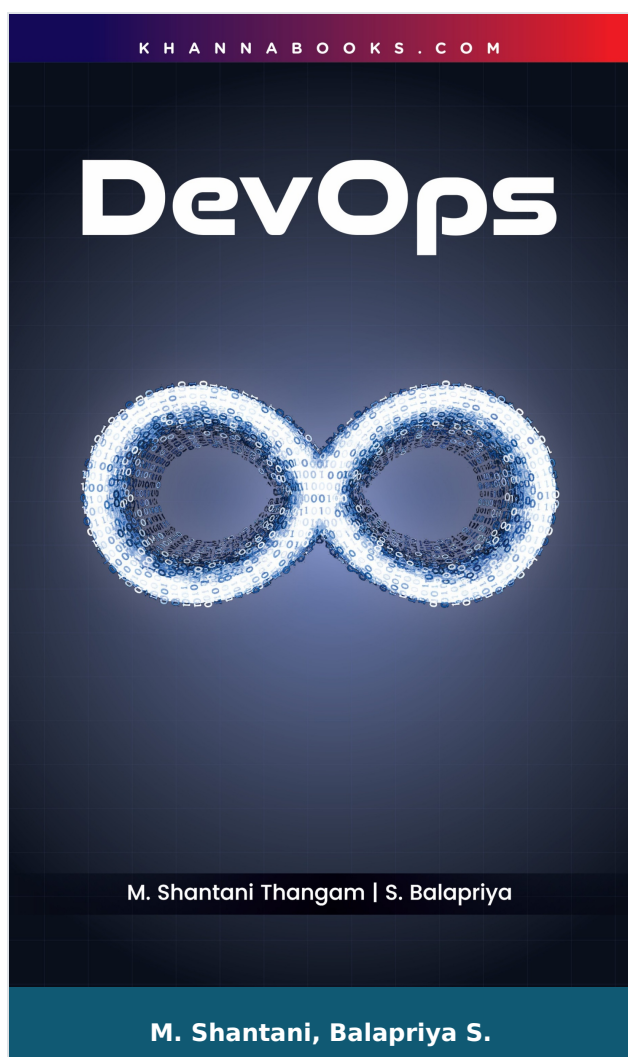
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- QUANTUM ENTANGLEMENT AND NONLOCALITY
- QUANTUM ALGORITHMS
- QUANTUM ERROR CORRECTION AND FAULT TOLERANCE
- APPENDICES

Author

A. B. Bhattacharya

Prof. A. B. Bhattacharya did his MSc and PhD degree from the University of Calcutta in Physics and Post-doc from the Massachusetts Institute of Technology (MIT), Cambridge, USA. He worked in close collaboration with the leading laboratories like Lincoln Laboratory; Milestone Hill Observatory; Earth, Atmospheric and Planetary Sciences division of MIT and many other well recognized laboratories in India and abroad. He served as Professor & Head of the Department of Physics, University of Kalyani; Dean of Research and Head of the ECE Department, Techno India University; Pro Vice Chancellor of JIS University and Director of Brainware University. He has published 32 text books for Science and Engineering students, two popular books for general readers and over 400 research articles in reputed International Journals. Under his supervision 24 scholars

received their doctoral degree. He is a fellow of the Institute of Electronics and Telecommunication Engineers and member of many scientific organizations. India International Friendship Society awarded him the prestigious "Shiksha Ratna Award" and Certificate of Excellence for meritorious services, outstanding performance and significant contribution to education. The International Institute of Success Awareness honored him with their globally recognized "Glory of India Gold Medal" for his outstanding contribution to the national stature of India. A few words from the certificate issued by Prof. Williams of MIT may be quoted "Our collaborative effort was directed at the wavelength dependence of radar echoes observations with the Millstone Hill UHF radar in Westford. He made use of the Charles River Data System computer in the Weather Radar Laboratory for these calculations. His results help to make a convincing case that the volume reflectivity associated with lighting is a diminishing function of radar wavelength, contrary to contemporary thinking". Dr.



Devops

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Product Description

This book serves as your essential guide to the world of DevOps—the powerful blend of cultural philosophies, practices, and tools designed to close the gap between development and operations teams.

By laying out the fundamental principles and complete lifecycle of DevOps, this text will equip you with a core understanding of how modern organizations deliver applications and services at high velocity. You will learn how to transition from traditional methods to a seamless, automated workflow that enables teams to produce software faster and more reliably.

From Continuous Integration (CI) and Continuous Deployment (CD) to infrastructure automation and real-time monitoring, this book provides the foundational knowledge and practical insights needed to foster better collaboration, streamline processes, and achieve a state of continuous improvement.

Salient Features:

- **DevOps Fundamentals:** Gain a clear overview of DevOps principles, including Customer-Centric Action, End-to-End Responsibility, and the core philosophy to "Automate Everything You Can".
- **The DevOps Life Cycle:** Deep-dive into the complete, iterative life cycle, covering the seven key stages: Plan, Code, Build, Test, Release, Deploy, Operate, and Monitor.
- **CI/CD Pipeline Mastery:** Learn the vital practices of Continuous Integration and Continuous Deployment/Delivery to ensure quick, automated, and frequent releases.
- **Core Concepts Explained:** Dedicated sections thoroughly cover essential building blocks like Version Control (using tools like Git/GitHub), Build Automation (using Jenkins, Maven), and Configuration Management (using Chef, Puppet, and Terraform).

- **Clear Distinctions:** Understand the key differences between DevOps and the Agile methodology, learning how DevOps complements Agile's iterative approach.
- **Essential Toolchain:** Get an overview of popular DevOps tools for containerization (Docker, Kubernetes), monitoring (Prometheus, Nagios), and automation, helping you choose the right technology for your pipeline.

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- Introduction to DevOps
- Agile Software Development
- Cloud Computing and AWS
- GIT and Configuration Management Tool
- Deployment and Monitoring Tool

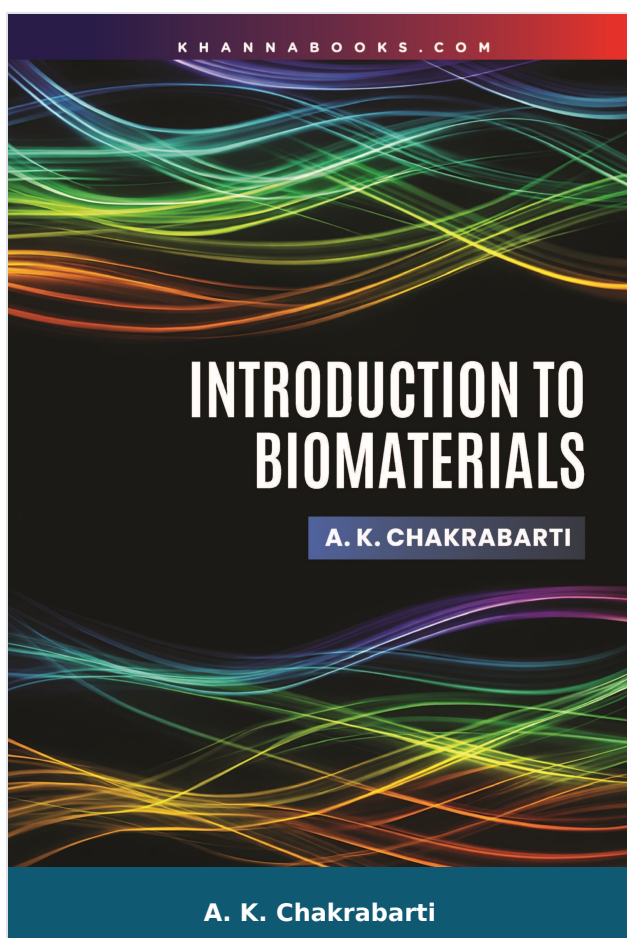
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Shanthi Thangam M. Balapriya S.

Balapriya S.

Shanthi Thangam M. Balapriya S.



Introduction To Biomaterials

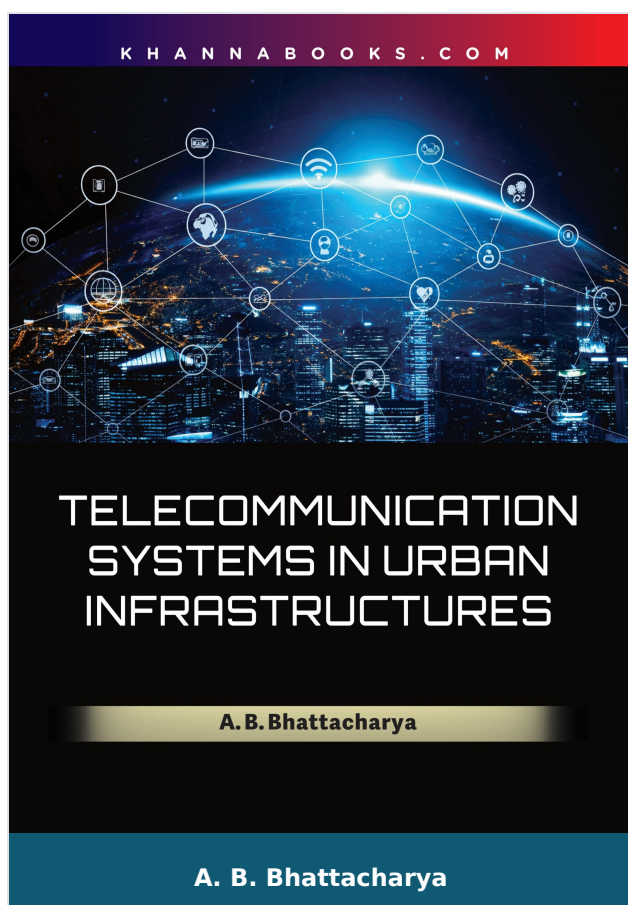
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Product Description

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Author

A. K. Chakrabarti



Telecommunication Systems In Urban Infrastructures

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Email: contact@khannabooks.com | Tel: 011-2324 44 47 - 48 | Mobile: +91-99109 09320

Product Description

Telecommunication Systems In Urban Infrastructures

Modern cities run on connectivity. From smart transport and energy grids to IoT-enabled homes and resilient emergency networks, telecommunication systems form the invisible backbone of urban life. Telecommunication systems in Urban Infrastructure delivers a comprehensive, practical, and future-focused exploration of how communication technologies design, support, and transform smart cities.

This book bridges theory and real-world application, guiding students, engineers, planners, and policymakers through the full ecosystem of urban telecommunication – from foundational signal principles to emerging 6G, AI-driven networks, and cyber-resilient infrastructure.

Readers will explore:

- Core principles of wired and wireless telecommunication systems
- Smart city connectivity for transport, utilities, building, and public spaces
- IoT integration, cyber security, and urban data privacy
- Planning, deployment, and economic challenges in dense urban environments
- Cutting-edge technologies including AI optimization, edge/cloud computing, and quantum communication
- Global smart city case studies and future sustainability trends

Each chapter is carefully structured with:

- Concept explanations grounded in real urban scenarios
- Numerical problems and technical exercises
- Short questions and multiple-choice assessments
- Projects ideas with guided solution

- Practical insights into standards, regulations, and infrastructure planning

With coverage spanning telecom fundamentals, smart utilities, mobility systems, urban IoT, security frameworks, and next-generation networks, this book provides a complete roadmap for designing and managing connected cities. Whether you are preparing for academic study, professional deployment, or research in smart infrastructure, this text equips you with the technical depth, analytical tools, and systems perspective required building the cities of tomorrow.

Build smarter networks. Design resilient cities. Shape the connected future.

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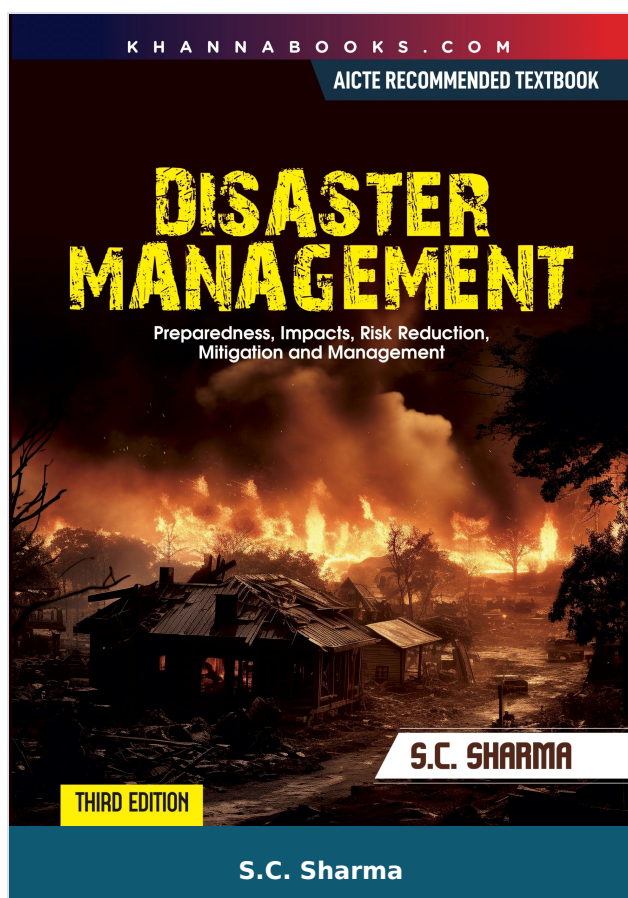
- Preface
- Acknowledgement
- Introduction to Telecommunication in Urban Infrastructure
- Fundamentals of Telecommunication Systems
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- Cyber Security and Data Privacy in Urban Telecom Systems
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- Visual Architectures and System Diagrams In Urban Telecommunication Infrastructure
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Author

A. B. Bhattacharya

Prof. A. B. Bhattacharya did his MSc and PhD degree from the University of Calcutta in Physics and Post-doc from the Massachusetts Institute of Technology (MIT), Cambridge, USA. He worked in close collaboration with the leading laboratories like Lincoln Laboratory; Milestone Hill Observatory; Earth, Atmospheric and Planetary Sciences

division of MIT and many other well recognized laboratories in India and abroad. He served as Professor & Head of the Department of Physics, University of Kalyani; Dean of Research and Head of the ECE Department, Techno India University; Pro Vice Chancellor of JIS University and Director of Brainware University. He has published 32 text books for Science and Engineering students, two popular books for general readers and over 400 research articles in reputed International Journals. Under his supervision 24 scholars received their doctoral degree. He is a fellow of the Institute of Electronics and Telecommunication Engineers and member of many scientific organizations. India International Friendship Society awarded him the prestigious "Shiksha Ratna Award" and Certificate of Excellence for meritorious services, outstanding performance and significant contribution to education. The International Institute of Success Awareness honored him with their globally recognized "Glory of India Gold Medal" for his outstanding contribution to the national stature of India. A few words from the certificate issued by Prof. Williams of MIT may be quoted "Our collaborative effort was directed at the wavelength dependence of radar echoes observations with the Millstone Hill UHF radar in Westford. He made use of the Charles River Data System computer in the Weather Radar Laboratory for these calculations. His results help to make a convincing case that the volume reflectivity associated with lighting is a diminishing function of radar wavelength, contrary to contemporary thinking". Dr.



Disaster Management

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Product Description

This book on "Disaster Management" deals with different types of disasters, their basic concepts, impacts, preparedness, capacity building, prevention, mitigation, response relief, hazards, vulnerability, and disaster prone areas in India.

This books deals natural disaster like, earthquakes, floods, cyclones, avalanches, droughts, forest fires, volcanic eruptions, landslides, extreme temperature etc. and also man-made disaster like, industrial accidents, fires, refugee situation, chemical and industrial hazard, nuclear radiation, major power breakdown, desertification etc.

The book cover the syllabi of different Universities and model syllabus of AICTE.

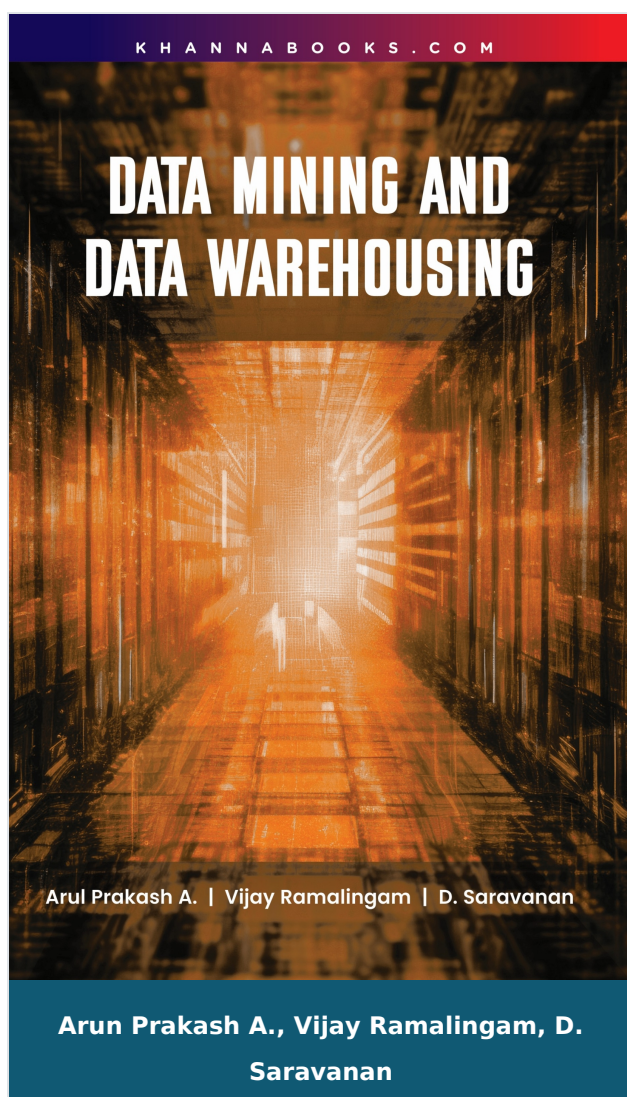
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- Introduction to disaster Management (Concepts and Definition)
- Disaster Classification
- Natural Disasters
- Man-Made Disasters
- Disaster Preparedness and Management
- Disaster Mitigation
- Disaster Prone (Hazard Vulnerable) Areas In India
- Risk Assessment and its Management
- Disaster Impacts
- Environmental Challenges
- Disaster, Environment and Development
- Legislation and Government Role on Disaster Risk Reduction.

Author

S.C. Sharma

S.C. Sharma after graduation in 1966 joined as lecturer in Mechanical Engineering. He had been associated for more than 4 decades in various fields including learning and management of projects in India and abroad in different capacities. While working Hydro power projects for more than 15 years he has actively associated with various environmental and rehabilitation & resettlement issues and successfully resolved various complicated issues. He has also worked as consultant for matters related to safety, environment and R & R. He has written about a dozen books on subjects related to engineering and management including management of projects.



Data Mining and Data Warehousing

Author :	Arun Prakash A., Vijay Ramalingam, D. Saravanan
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Product Description

In the contemporary digital age, where data has become the lifeblood of industries, the ability to effectively collect, store, and analyze massive volumes of information is paramount. Data Mining and Data Warehousing serves as an indispensable resource, offering a comprehensive and insightful exploration of these dynamic, interconnected disciplines. This book acts as a crucial bridge, guiding readers from foundational theoretical principles—such as the Knowledge Discovery in Databases (KDD) process—to cutting-edge practical applications required to navigate the modern, data-driven environment.

The core purpose of this text is to empower readers to extract implicit, previously unknown, and potentially useful patterns from large datasets, transforming raw information into strategic business decisions. The content is systematically structured, beginning with Data Preprocessing and Data Warehousing concepts like multi-dimensional modeling, OLAP operations, and various schemas (Star, Snowflake). It then thoroughly covers essential data mining techniques: Association Rule Mining, Classification and Prediction, and Cluster Analysis. Concluding with discussions on the social impacts and real-world applications in areas like financial analysis and the retail industry, this text is an invaluable tool for students in Computer Science and Data Science, IT professionals, and researchers seeking to leverage data for a competitive advantage.

Salient Features:

- **KDD & Preprocessing Focus:** Thoroughly explains the steps of Knowledge Discovery in Databases (KDD), including essential processes like data cleaning, integration, selection, and transformation, preparing raw data for effective mining.

- **Multidimensional Modeling:** Detailed coverage of Data Warehousing components, the Multi-Dimensional Data Model, and its schemas, such as Star and Snowflake. It also contrasts OLAP and OLTP systems.
- **Association Rule Mastery:** Explores mining frequent itemsets, associations, and correlations using powerful methods like Candidate Generation and FP-Growth, along with finding Multi-Level and Constraint-Based rules.
- **Classification & Prediction:** Deep dive into key predictive models, including Decision Tree Induction, Bayesian Classification (Naïve Bayes), Support Vector Machines (SVM), and neural networks like Backpropagation.
- **Comprehensive Clustering:** Systematically presents a wide range of clustering techniques, covering Partitioning (k-means), Hierarchical, Density-based (DBSCAN), and Model-based methods for effective group discovery.
- **Data Mining Architectures:** Explains the full system architecture, components, and functionalities of data mining systems and examines different integration schemes with data warehouses (e.g., tight coupling).
- **Real-World Case Studies:** Includes dedicated sections on the practical utility and social impacts of data mining, with case studies on applications like Financial Analysis, the Retail Industry, and mining the WWW and Text Databases.

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- Data Mining
- Data warehousing
- Association Rule Mining
- Classification and Prediction
- Clustering, Applications & Trends

Author

Arun Prakash A.

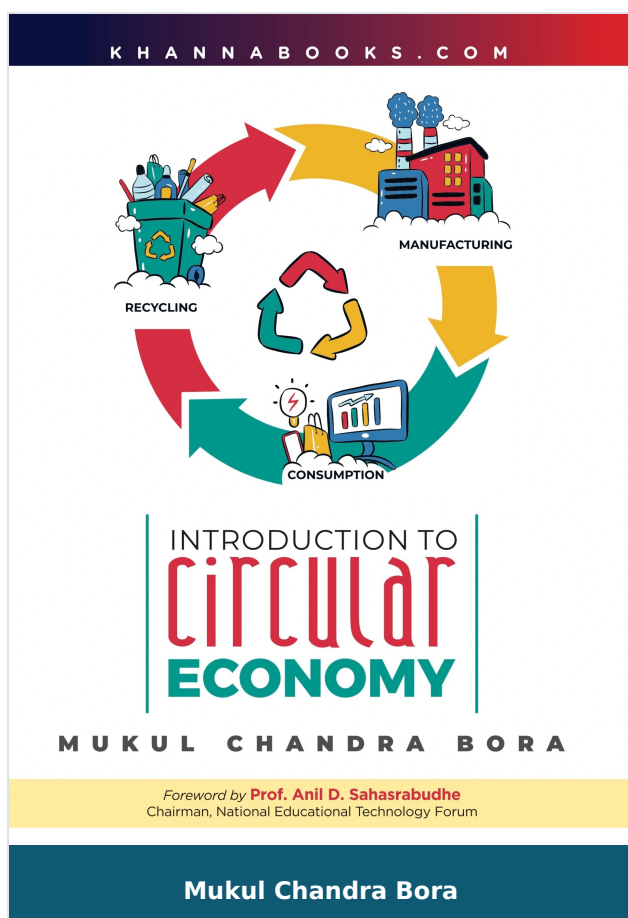
Arul Prakash A. Vijay Ramalingam D. Saravanan

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Introduction to Circular Economy

Author : Mukul Chandra Bora

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M.R.P : Rs 449.00

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Product Description

The concept of a Circular Economy has emerged as a transformative framework for addressing the environmental, economic, and social challenges of the 21st century. As the global population continues to grow and natural resources become increasingly scarce, the limitations of the traditional linear economy — characterized by a "take, make, dispose" model — have become evident. The linear approach has not only strained ecological systems but also led to significant economic inefficiencies and social inequalities. In response to these challenges, the circular economy presents a regenerative and restorative model designed to minimize waste, optimize resource use, and create sustainable economic opportunities.

The Bharatiya Gyana Parampara i.e., Indian Knowledge System as it commonly known to all of us now is also briefly described in this book as the concept of a circular economy was inherently practiced in ancient India, deeply rooted in the principles of sustainability, resource efficiency, and minimal waste generation. Traditional Indian society emphasized harmony with nature through practices such as reuse, recycling, and repurposing of materials. Agricultural systems followed natural cycles, using organic compost and crop rotation to maintain soil fertility. Handicrafts and textiles were produced using renewable resources like cotton, wool, and natural dyes, with worn-out materials often repurposed into quilts, ropes, or cleaning cloths. Metal and wooden tools were repaired or melted down for reuse, reflecting a resource-conserving mindset. Water harvesting systems, such as stepwells and reservoirs, ensured sustainable water management. The philosophical and spiritual underpinnings of Indian culture, including concepts from Vedic and Buddhist traditions, advocated for minimalism and mindful consumption, discouraging excess and waste. This self-sufficient and regenerative approach to production and consumption closely aligns with modern circular economy principles, highlighting the relevance of ancient Indian wisdom in addressing contemporary

sustainability challenges.

This book, *Introduction to Circular Economy*, aims to provide a comprehensive foundation for understanding the principles, strategies, and practical applications of the circular economy. It explores how circular thinking can reshape industries, redefine business models, and drive innovation in the face of growing environmental and economic pressures. The circular economy encourages a shift from the consumption of finite resources to the use of renewable inputs, the extension of product life cycles through repair and remanufacturing, and the recovery of materials at the end of their useful life.

This book also provides a brief outline about the Economic theories and its evolution in the first chapter which is of great need to understand the importance of Circular Economy in present day context. This review of economic theories provides valuable insights into the foundation and evolution of the circular economy. Classical and neoclassical theories, pioneered by Adam Smith and Alfred Marshall, emphasized market efficiency, resource allocation, and profit maximization, but largely overlooked environmental constraints and waste generation. Keynesian economics highlighted the role of government intervention and public investment, which is crucial for supporting circular initiatives through infrastructure and policy measures. Institutional economics underscores the importance of regulatory frameworks, incentives, and market structures in enabling circular business models. Evolutionary and innovation economics highlight the role of technological advancements and business model disruptions in driving circular practices such as recycling, remanufacturing, and product lifecycle extension. Behavioural economics further informs how consumer preferences and social norms can influence the adoption of circular products and services. Thus, the circular economy integrates insights from multiple economic theories to create a sustainable framework that balances economic growth with environmental and social well-being.

Throughout this book, we will examine the theoretical underpinnings of the circular economy, tracing its evolution from early environmentalist movements to its current

status as a key driver of sustainable development. We will analyze real-world examples from various sectors — including manufacturing, construction, fashion, and electronics — to illustrate how businesses and governments are adopting circular strategies to reduce waste and create value. Additionally, we will explore the policy landscape, highlighting global initiatives and regulatory frameworks that are supporting the transition to a circular economy.

The role of Life Cycle Analysis in Circular Economy is also discussed due to its inherent role in implementation of circular economic model in real life applications as Life Cycle Analysis (LCA) plays a crucial role in the circular economy by providing a systematic method to assess the environmental impact of a product, process, or service throughout its entire life cycle. LCA evaluates all stages, including raw material extraction, manufacturing, distribution, use, and end-of-life disposal or recycling. In the context of a circular economy, LCA helps identify opportunities to reduce waste, improve resource efficiency, and extend product lifespans by highlighting the environmental costs and benefits of different production and consumption models. By measuring energy consumption, emissions, and material use at each stage, LCA enables businesses and policymakers to make informed decisions that support recycling, remanufacturing, and sustainable design. This ensures that economic activities are aligned with environmental sustainability, minimizing resource depletion and waste generation while promoting a closed-loop system.

A key focus of this work is to present the circular economy not merely as an environmental necessity but as a significant economic and strategic opportunity. By adopting circular principles, businesses can reduce costs, improve supply chain resilience, and unlock new markets. Moreover, the circular economy offers a pathway to greater social equity by promoting resource efficiency, reducing environmental degradation, and fostering inclusive economic growth.

This book is intended for a broad audience, including business leaders, policymakers, researchers, and students. It provides both a conceptual understanding and a practical roadmap for implementing circular strategies at different scales — from individual businesses to global value chains. Each chapter includes case studies, key insights, and discussion questions to encourage deeper engagement with the material.

The transition to a circular economy represents one of the most promising avenues for achieving sustainable development in the 21st century. By closing the loop on resource use and fostering innovation in product design, supply chain management, and waste recovery, the circular economy holds the potential to create a more resilient, inclusive, and environmentally sustainable global economy. It is my hope that this book will inspire readers to rethink existing models of production and consumption and embrace the opportunities offered by circularity.

I am grateful to the reviewer Dr Rupsikha Sharma, Tampines, Singapore and other researchers, practitioners, and thought leaders whose work has been informed the insights presented in this book and are duly credited in the references. I would also like to thank my colleagues and family for their invaluable support throughout the writing process. May this work serve as a guiding resource for all those committed to building a more sustainable and prosperous future.

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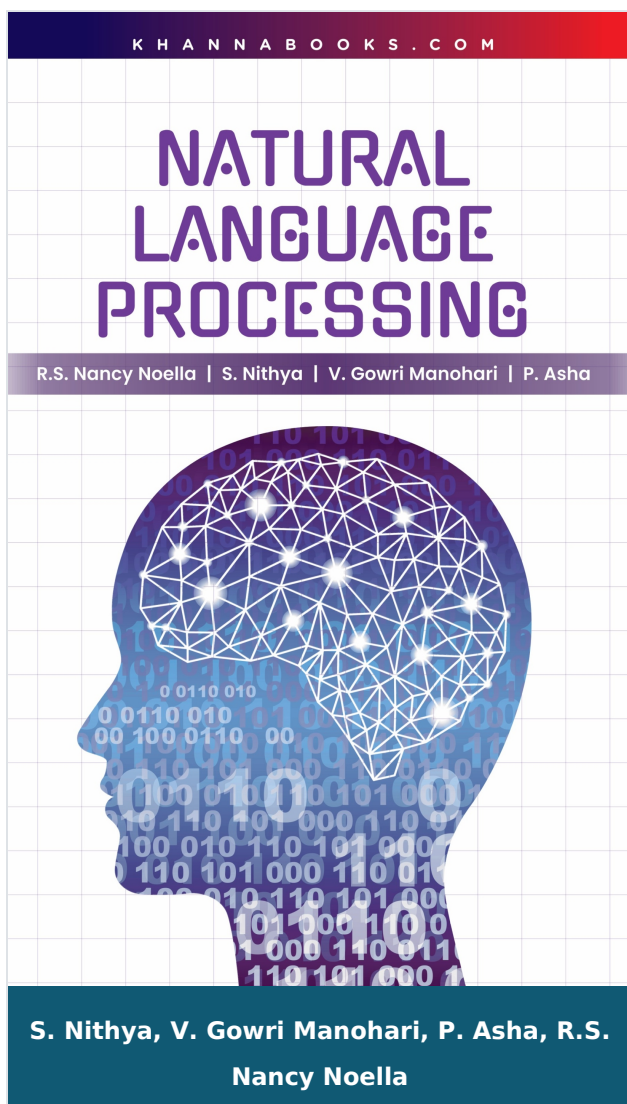
- Foreword
- Preface
- Theory of Economic Development
- Circular Economy and Environmental
- Global Initiatives Towards Circular Economy
- Circular Economy: Indian Scenario
- Role of life Cycle Analysis in Circular Economy
- Design and Circular Economy
- Business Model and Circular Economy
- Business Model and Case Studies in Circular Economy
- Reference (Suggested Reading)

Author

Mukul Chandra Bora

Dr. Mukul Chandra Bora has an extensive academic background in civil engineering, reflecting his commitment to scholarly excellence. He earned a Ph.D. in Civil Engineering from the Indian Institute of Technology (IIT) Guwahati in 2011, following an M. Tech in Geotechnical Engineering from IIT Kharagpur in 2000. His journey in the field began with a B.E. in Civil Engineering from Dibrugarh University in 1988. With decades of professional experience, Dr. Bora has held key academic and administrative roles. Since August 2012, he has been the Director of the Institute of Engineering & Technology, Dibrugarh University. Previously, he served as State Project Administrator for the Northeast State Project Implementation Unit (2017-2021) of TEQIP - III project of Ministry of Education, Government of India. His teaching career includes a tenure at Technical Education

Department of Government of Assam together with professional experience as a Quantity Surveyor at PBS Limited, Guwahati (1991-1995) and a Site Engineer at M.L. Dalmiya & Co. Ltd., Kolkata (1989-1991). Dr. Bora's research and consultancy work focus on ground improvement techniques, geosynthetics, rainfall impact on groundwater, non-biodegradable waste in construction, and slope stabilization. He has contributed significantly to materials characterization and geotechnical investigations for major infrastructure projects, including power plants and industrial facilities. He is a fellow of the Institution of Engineers (India), a Senior Member of the Asia Pacific Chemical, Biological and Environmental Engineering Society (Hong Kong), and a Member of the International Association for Life Cycle Civil Engineering (Italy). Additionally, he serves as a reviewer for reputed journals, including Springer's Journal of the Institution of Engineers (India), Series A. Beyond civil engineering, Dr. Bora has made remarkable contributions to the Bhartiya Knowledge System (BKS), which encompasses philosophy, science, mathematics, astronomy, Ayurveda, linguistics, and traditional Indian technologies. Rooted in ancient texts like the Vedas and Upanishads, BKS has profoundly influenced Indian civilization. Dr. Bora is dedicated to reviving and integrating traditional Indian knowledge with modern research and education, bridging the gap between ancient wisdom and contemporary advancements. His book, "Foundations of Bhartiya Knowledge System" (2023), published by Khanna Publishing House, delves into the fundamental principles of India's knowledge systems, promoting their relevance in the modern era. Through his work, Dr. Bora continues to advance both civil engineering and India's intellectual heritage, fostering a deeper appreciation of Bhartiya wisdom among scholars and students.



Natural Language Processing

Author : S. Nithya, V. Gowri Manohari, P. Asha, R.S. Nancy Noella

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Product Description

This comprehensive text is an essential guide to the rapidly evolving field of Natural Language Processing (NLP), which sits at the dynamic intersection of linguistics, computer science, and artificial intelligence. The core theme is mastering the ability for computers to understand, interpret, and generate human language, a capability that powers modern AI applications from virtual assistants and machine translation to sentiment analysis and chatbots.

Designed to be a balanced and holistic resource, the book successfully bridges the critical gap between theoretical foundations and practical implementation. It systematically covers fundamental concepts like text preprocessing, tokenization, and language modeling, ensuring readers build a strong conceptual base. The practical value lies in its commitment to demystifying complex concepts, providing readers with the necessary tools to build, optimize, and deploy robust NLP systems effectively.

The text offers in-depth coverage of state-of-the-art architectures like transformers, BERT, and GPT, complemented by practical, hands-on examples using industry-standard frameworks such as PyTorch, TensorFlow, and Hugging Face. Furthermore, it extensively covers the entire phases of NLP—from lexical and syntactic processing to semantic interpretation and discourse analysis—ensuring a thorough understanding of the whole pipeline. The primary audience for this text is students seeking foundational knowledge, researchers looking to refine their expertise, and practitioners aiming to implement real-world NLP solutions. It is an indispensable resource for anyone dedicated to exploring and innovating in this exciting and interdisciplinary domain.

Salient Features:

- **Foundational Concepts:** Provides clear explanations of core NLP techniques, including tokenization, embedding, and language modeling, covering the phases of NLP from

lexical to pragmatic analysis.

- **State-of-the-Art Models:** Includes in-depth coverage of current advancements, exploring transformer architectures, BERT, GPT, and other cutting-edge, highly efficient models for language tasks.
- **Hands-on Implementation:** Offers practical, hands-on examples using popular industry frameworks such as PyTorch, TensorFlow, and the Hugging Face library for real-world development.
- **Syntactic-Semantic Pipeline:** Explores the key NLP phases of syntactic parsing and semantic interpretation, including grammar, ambiguity resolution, and the use of Logical Forms.
- **Context and Discourse:** Dedicated coverage of World Knowledge and Discourse Structure, including knowledge representation techniques and the analysis of coherence and reference resolution.
- **Real-World Applications:** Features case studies and projects demonstrating the practical deployment of NLP in industry, covering applications like machine translation and sentiment analysis.
- **Parsing & Grammar:** Delves into advanced parsing techniques, including Probabilistic Parsing, Feature Structures, Augmented Grammars, and the Symbolic Approach to computation.

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- Introduction to NLP
- Syntactic Processing
- Semantic Interpretation
- Context and World Knowledge
- Natural Language Discourse Structure

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