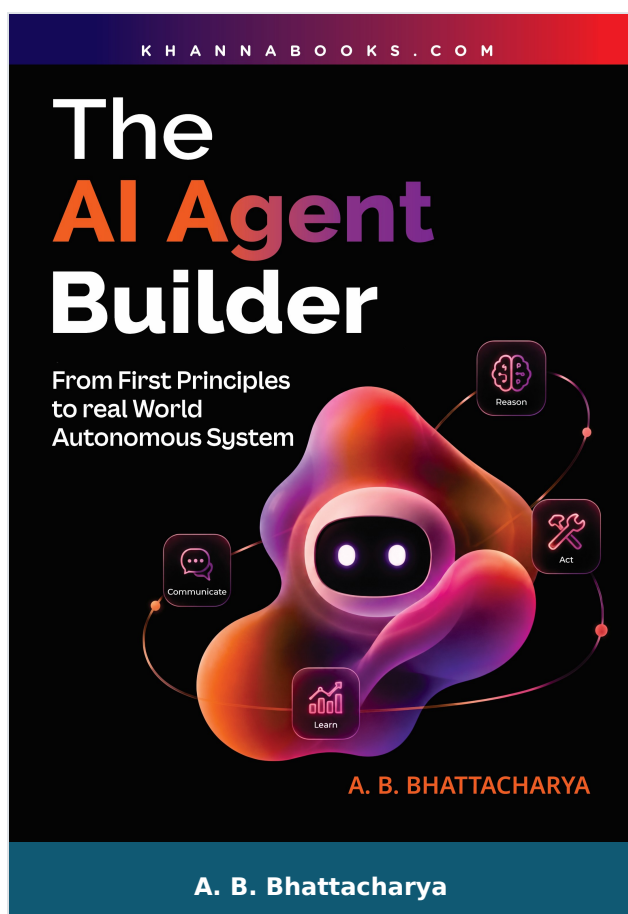




The AI Agent Builder (From First Principles to real World Autonomous System)

Author : A. B. Bhattacharya

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Categories : [Computer Science Engineering,](#)
[New Arrivals, Book Store](#)

Condition Type : New

Country Origin : India

Product Description

The AI Agent Builder: From First Principles to Real-World Autonomous Systems is a comprehensive guide that introduces the concepts, architecture, development, and deployment of AI agents through a balanced combination of theoretical foundations and practical implementation. Intended for students, researchers, developers, and AI practitioners, the book explains agent architectures, large language models, memory systems, reasoning, planning, tool integration, multi-agent collaboration, safety, evaluation, deployment, and real-world applications.

Salient Features

- **AI Agent Foundations:** Explains the evolution of AI agents, agent architectures, environments, perception, reasoning, action, and large language models through a structured first-principles approach.
- **Practical Agent Development:** Covers memory systems, planning strategies, reasoning techniques, tool integration, autonomous execution, and multi-agent collaboration with exercises and project-based learning.
- **Modern AI Technologies:** Introduces APIs, function calling, external knowledge integration, vector databases, retrieval-augmented generation, and scalable deployment methods for intelligent autonomous systems.
- **Safety and Evaluation:** Explains performance benchmarking, reliability testing, hallucination detection, AI safety principles, prompt injection protection, guardrails, and responsible deployment practices.
- **Real-World Applications:** Demonstrates AI agent implementations for research assistance, customer support, data analysis, productivity, and other practical domains through representative application scenarios.
- **Practice-Oriented Learning:** Reinforces understanding through practical exercises, project ideas, short-answer questions, and multiple-choice questions that

strengthen conceptual and implementation skills.

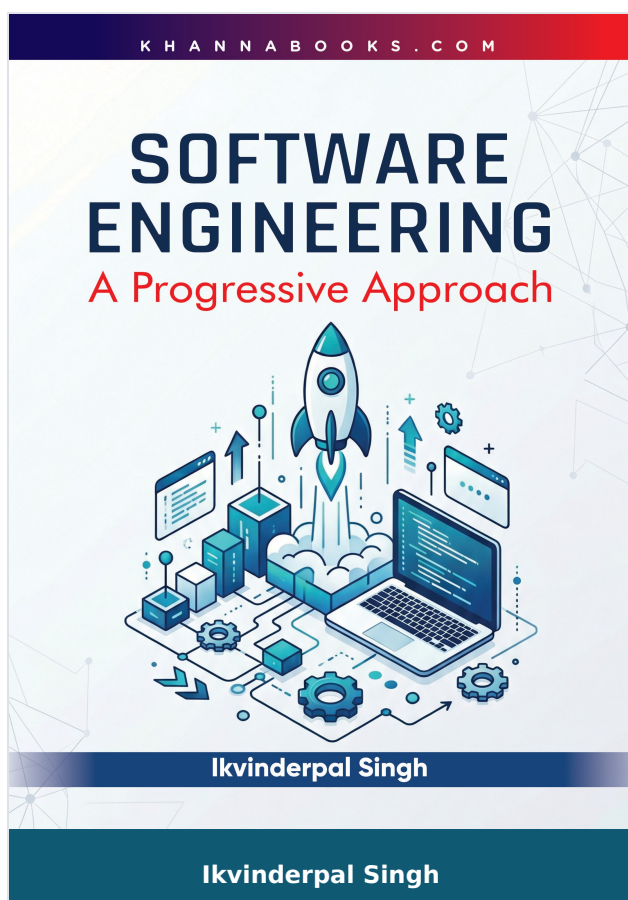
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Author

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 lightning is a diminishing function of radar wavelength, contrary to contemporary thinking". Dr.



SOFTWARE ENGINEERING A Progressive Approach

Author : Ikvinderpal Singh

ISBN 13 : 978-93-82609-22-3

ISBN 10 : 9382609229

E-ISBN 13 : 978-93-82609-22-3

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Publisher : Khanna Publishing House

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Categories : [Computer Science Engineering,](#)
[Book Store](#)

Condition Type : New

Country Origin : India

Product Description

Software Engineering: An Engineering Approach provides a comprehensive and reader-friendly introduction to software development as a rigorous engineering discipline. Tailored for upper-level undergraduate students, first-year graduate students, and industry practitioners, this text bridges the gap between chaotic programming habits and mature software practices. It outlines structural development life cycles, detailed cost estimation metrics, design modeling frameworks, and exhaustive verification methodologies. By highlighting the integration of Computer-Aided Software Engineering (CASE) tools, the text provides readers with the practical skills needed to deploy high-quality, reliable, and maintainable systems. Ultimately, this volume serves as an essential manual for navigating the rapid technical shifts within modern industrial applications.

Salient Feature:

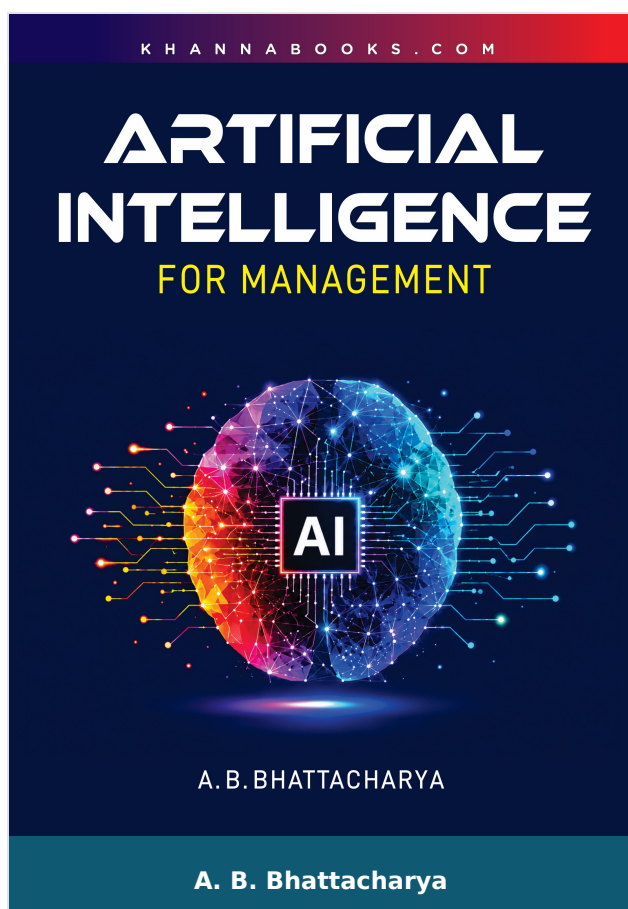
- **Foundational Learning Paradigms:** Evaluates core software development principles, stakeholder management roles, Davis's rules, and CMM quality frameworks to establish structural programming discipline.
- **Essential Algorithms:** Covers foundational process pathways including Waterfall, prototyping, incremental growth, Spiral architectures, and rapid development life cycles.
- **Practical Implementation:** Explains algorithmic test-case design using equivalence partitioning, boundary values, structural basis paths, and systematic integration testing methodologies.
- **Data Strategy:** Integrates data flow diagrams, structured dictionaries, entity relationships, and structural object-oriented UML modeling to streamline architectural configurations.
- **Model Optimization:** Maximizes lifecycle efficiency through automated CASE tool environments, repository coordination architectures, and software quality assurance

planning guides.

Author

Ikvinderpal Singh

Dr. Ikvinderpal Singh is an Assistant Professor at Trai Shatabdi Guru Gobind Singh Khalsa college Amritsar, bringing 17+ years of academic leadership and research experience to the field of computer science. A Gold Medalist in B.Sc. IT, with an MCA (Distinction) and a Ph.D. in Neural Networks and Image Processing, he is known for blending rigorous research with practical innovation. A prolific academic creator, he has authored 37 books, published 82+ research papers, and designed 100+ industry-aligned skill-development courses. His expertise extends to doctoral evaluation, supervision, and active participation on 100+ editorial and review boards worldwide.



Artificial Intelligence For Management

Author : A. B. Bhattacharya

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Language : English

Publisher : Khanna Publishing House

M.R.P : Rs 395.00

Categories : [Computer Science Engineering](#)

Condition Type : New

Country Origin : India

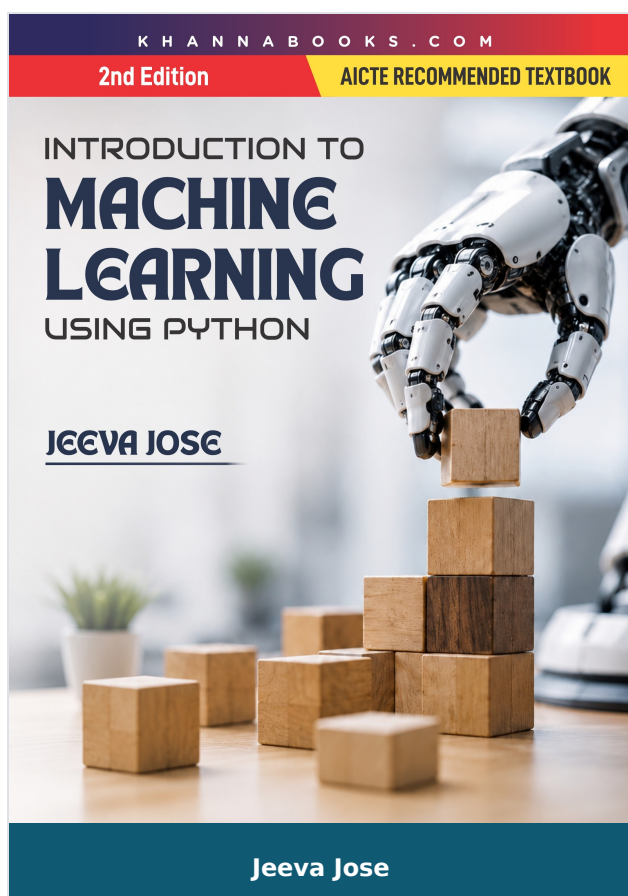
Product Description

Artificial Intelligence is transforming the way organizations operate, decide, and grow. This book bridges the gap between AI concepts and real-world managerial applications, empowering managers to make informed decisions, drive innovation, and lead responsibly in the AI era.

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 lightning is a diminishing function of radar wavelength, contrary to contemporary thinking". Dr.



Introduction to Machine Learning Using Python

Author :	Jeeva Jose
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E-ISBN 13 :	978-93-09430-35-0
Edition :	Second
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Publisher :	Khanna Publishing House
M.R.P :	Rs 268.00
Categories :	Computer Science Engineering, New Arrivals, University Recommended, Computer Science Engineering, Book Store
Condition Type :	New
Country Origin :	India

Product Description

Salient features of this book:

AICTE recommended book for Indian Universities and Autonomous colleges.

- This book can be used as a self study material or for instructor assisted teaching.
- Frequent questions for interviews and examinations are provided.

Topics Covered in this Book

Chapter 1. Introduction to Machine Learning

Chapter 2. Regression

Chapter 3. Classification

Chapter 4. Cluster Analysis

Chapter 5. Advanced Multivariate Analysis

Chapter 6. Semi-supervised, Reinforcement & Active Learning

Chapter 7. Deep Learning

Chapter 8. Introduction to TensorFlow

Chapter 9. Regression using TensorFlow

Chapter 10. Artificial Neural Networks using TensorFlow

Author

Jeeva Jose

Dr. Jeeva Jose completed Ph. D. in Computer Science from Mahatma Gandhi University, Kerala, India and is a faculty member at BPC College, Kerala. Her passion is teaching and areas of interests include world wide web, Data Mining and Cyber laws. She has been in higher education for the last 15 years and has completed three research projects funded by UGC and KSCSTE. She has published more than twenty research papers in various refereed journals and conference proceedings. She has edited three books and has given many invited talks in various conferences. She is a recipient of ACM-W Scholarship provided by Association for Computing Machinery, New York.



Mastering MERN(Full-Stack Web Development Simplified)

Author : K. Ulaga Priya, Thilakavathi P.

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Pages : 116

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Year : 2026

Language : English

Publisher : Khanna Publishing House

M.R.P : Rs 298.00

Categories : [Computer Science Engineering,](#)
[New Arrivals, Emerging](#)
[Technologies, Book Store](#)

Condition Type : New

Country Origin : India

Product Description

Welcome to Mastering MERN: Full-Stack Web Development Simplified. This book provides a seamless, structured journey into building dynamic, single-page applications (SPAs) using MongoDB, Express.js, React.js, and Node.js. Its core purpose is to bridge the gap between front-end and back-end technologies, empowering you to build end-to-end applications using a single programming language: JavaScript.

Readers will establish a strong foundation in JavaScript before diving into backend data management with MongoDB and Mongoose. The journey continues with front-end UI development using React, followed by constructing robust RESTful APIs with Node.js and Express.js.

Designed for students, aspiring software engineers, and professional developers, this book takes you from foundational JavaScript concepts to advanced API construction. It culminates in a hands-on integration of CRUD operations across the entire MERN stack, ensuring your theoretical knowledge translates directly into real-world application development.

Salient Features

- **Foundational JavaScript Concepts:** Master essential language mechanics, including variables, control flow, array methods, and modern functions, providing a robust base for full-stack logic.
- **MongoDB Data Modeling:** Utilize Mongoose to design flexible NoSQL schemas, enforce data structures, and handle complex one-to-many or many-to-many database relationships.
- **React Component Architecture:** Break down complex user interfaces into reusable, self-contained functional or class components while ensuring predictable unidirectional data flow via props.

- **State Management Mastery:** Efficiently control dynamic application data and handle side effects using modern React Hooks like `useState`, `useEffect`, and `useReducer`.
- **Robust Backend Development:** Leverage the event-driven, single-threaded, and non-blocking I/O model of Node.js to create highly scalable, performant server-side architectures.
- **RESTful API Construction:** Simplify server logic using Express.js to seamlessly manage middleware, process form data, and route varying HTTP requests and responses.
- **Full-Stack CRUD Integration:** Bridge the gap between distinct technologies by building a fully functional application that integrates a React frontend with a backend API.

Author

K. Ulaga Priya

Thilakavathi P.



User Interface Design

Author : C. Geetha, A. Sathiyaraj

ISBN 13 : 978-93-55385-36-9

ISBN 10 : 9355385366

E-ISBN 13 : 978-93-55385-36-9

Edition : First

Pages : 140

Type of book : Physical

Year : 2026

Language : English

Publisher : Khanna Publishing House

M.R.P : Rs 248.00

Categories : [Computer Science Engineering,](#)
[New Arrivals, Book Store,](#)
[Sathyabama Series](#)

Condition Type : New

Country Origin : India

Product Description

This authoritative textbook, User Interface Design, is a comprehensive and practical guide dedicated to mastering the art and science of building modern, responsive, and engaging web interfaces. The book is structured around the practical application of essential front-end technologies, providing a clear path for readers to transition from foundational markup to advanced dynamic design.

The core theme revolves around the latest standards, specifically providing an in-depth exploration of HTML5 and CSS3. Readers will gain proficiency in crucial contemporary features such as semantic document structuring, rich media integration (native audio and video), client-side data persistence via Web Storage, and interactive capabilities using the Canvas API for 2D graphics. Furthermore, it covers advanced techniques like implementing Geolocation for location-aware applications and leveraging frameworks like Bootstrap for efficient, responsive layouts.

Authored by experts in Information Technology, this resource is invaluable for a broad audience: students and academics in Computer Science and Web Development seeking a strong theoretical and practical foundation, as well as aspiring and practicing web professionals looking to update their skills with current industry standards. By offering detailed code examples and focusing on practical value, the book ensures that readers can immediately apply these powerful tools to create high-performing and user-centric interfaces.

Salient Features:

- **Semantic HTML5 Mastery:** Covers new HTML5 elements like `<article>`, `<section>`, and `<header>` to help readers create a meaningful, better-structured, and more accessible document outline.

- **Rich Media Integration:** Detailed instruction on embedding and controlling native audio and video content using the `<audio>` and `<video>` tags, eliminating reliance on external plug-ins like Flash.
- **Client-Side Capabilities:** Explores powerful browser APIs, including Geolocation for location-aware apps and Web Storage for persistent, secure client-side data handling (local and session storage).
- **Dynamic Graphics Design:** Provides practical instruction on using the Canvas API with JavaScript to create programmable, two-dimensional graphics, facilitating the development of complex interactive visuals.
- **Responsive Design Frameworks:** Features a comprehensive guide to CSS3 and its advanced features, alongside the utilization of the Bootstrap framework for quickly building mobile-first and responsive web layouts.
- **Advanced Form Elements:** Focuses on HTML5 Forms 2.0, introducing new input types (like email, date, number) and attributes for improved user experience, data validation, and specialized input fields.
- **Code-Based Learning:** Emphasizes learning through direct implementation by providing numerous detailed HTML, CSS, and JavaScript code snippets with corresponding output examples for every core concept.
- **Modern Style Techniques:** Covers essential CSS3 features such as advanced selectors, text shadow effects, 2D and 3D transformations, and implementations like border-radius and box-shadow.

Author

C. Geetha

A. Sathiyaraj



R Programming

Author :	S. Revathy, M.S. Roobini
ISBN 13 :	978-93-55382-28-3
ISBN 10 :	9355382286
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Year :	2026
Language :	English
Publisher :	Khanna Publishing House
M.R.P :	Rs 198.00
Categories :	Computer Science Engineering, New Arrivals, Book Store, Sathyabama Series
Condition Type :	New
Country Origin :	India

Product Description

This comprehensive textbook, R Programming, is meticulously designed to serve as a complete, hands-on guide for mastering R, the world's most popular open-source language for statistical computing and data analysis. The book's core theme is bridging the gap between theoretical data science concepts and practical implementation, offering a seamless learning journey from fundamental programming syntax to advanced analytical applications. It begins by laying a solid foundation in the History and Fundamentals of R, covering installation, package management, control structures, and essential data operations like matrices and strings.

The purpose is to equip readers with the skills to effectively manipulate, analyze, and visualize data, leveraging R's outstanding graphical capabilities. The practical value is immediately evident through its coverage of reading and writing various data interfaces (CSV, XML, Web Data) and generating professional-grade charts and graphs for visualization. Moving beyond basics, the book dedicates extensive sections to applying core Statistical Techniques (including distributions, ANOVA, and time series analysis) and diving deep into Machine Learning paradigms like Classification (Random Forest, SVM), Clustering (K-Means), and Association Rule Mining (Apriori). Finally, it introduces cutting-edge application development using R Shiny to build interactive web applications and scales up analysis with instruction on Integrating Hadoop with R. The target audience includes students (particularly those in courses like SCSA4001), data science professionals, statisticians, and researchers seeking a practical, cross-platform resource for data-driven decision-making.

Salient Features:

- **Fundamental R Concepts:** Provides a robust introduction to R, covering installation, package management, control structures (loops, conditionals), user-defined functions, and matrix/string operations.

- **Comprehensive Data I/O:** Details methods for reading and writing data using R, including common formats like CSV and XML, as well as techniques for scraping and interacting with Web Data.
- **Statistical Toolkit:** Explores key statistical applications such as descriptive statistics, probability distributions, ANOVA, and time series analysis, utilizing essential R packages like MASS and STATS.
- **Hands-on Visualization:** Teaches the creation of various graphical representations, including Pie Charts, Bar Charts, Box Plots, and Scatter Plots, to effectively communicate data insights.
- **Core Classification Models:** Explains the implementation of major classification algorithms like Decision Trees, Random Forest, and Support Vector Machines (SVM) for building predictive models.
- **Advanced Data Mining:** Covers unsupervised learning with K-Means Clustering, discovers patterns with Apriori Association Rule Mining, and identifies anomalies through Local Outlier Factor (LOF) Analysis.
- **Interactive App Development:** Guides the user in creating and deploying R Shiny web applications, covering UI.R and Server.R components for dynamic, shareable visualizations.
- **Big Data Scalability:** Introduces the concept and practical steps for Integrating R with Hadoop using the RHadoop framework, enabling users to perform analysis on massive datasets.

Author

S. Revathy

M.S. Roobini



Machine Learning Tools & Techniques

Author : Lekshmi S. Raveendran, Minu Susan Jacob, R. Sathyabama Krishna

ISBN 13 : 978-93-55388-17-9

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E-ISBN 13 : 978-93-55388-17-9

Edition : First

Pages : 68

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Language : English

Publisher : Khanna Publishing House

M.R.P : Rs 148.00

Categories : [Computer Science Engineering,](#)
[New Arrivals, Book Store,](#)
[Sathyabama Series](#)

Condition Type : New

Country Origin : India

Product Description

"Machine Learning Tools and Techniques" serves as a thorough and approachable guide, offering a comprehensive overview of essential ML concepts, tools, and methodologies crucial for navigating the modern era of artificial intelligence and big data. The book is purposefully structured to bridge the gap between theoretical foundations and practical implementation, making it a critical resource for developing intelligent systems.

The learning journey begins with core data mining principles, exploring the process, fielded applications across industries like finance and healthcare, and the foundational relationship between machine learning and statistics. It systematically builds expertise through detailed discussions on knowledge representation (including trees, linear models, and rules) and the crucial concepts of model credibility and evaluation, covering rigorous techniques like cross-validation, hyperparameter tuning, and the Minimum Description Length (MDL) principle. A strong emphasis is placed on essential data preprocessing and transformation methods, such as attribute selection and data cleansing.

Crucially, the book introduces a versatile ML tool-kit, providing hands-on application demonstrations for industry-standard platforms and libraries, including Scikit-Learn, TensorFlow, PyTorch, KNIME, and IBM Watson. This text is an ideal resource for students, researchers, and professionals seeking to gain hands-on expertise in applying cutting-edge ML solutions to develop real-world applications and contribute meaningfully to the field of AI and data analytics.

Salient Features:

- **Foundational Concepts:** Covers the complete data mining process, the core relationship between machine learning and statistics, and essential ethical considerations for responsible AI deployment.

- **Knowledge Representation:** Detailed explanation of diverse representation methods, including decision trees, linear and rule-based models, instance-based learning, and unsupervised clustering techniques.
- **Credibility and Validation:** Focuses on rigorous model evaluation using techniques like cross-validation and hyperparameter selection, alongside the Minimum Description Length (MDL) principle to prevent overfitting.
- **Data Transformation Methods:** Explores crucial data preprocessing steps such as attribute selection, feature engineering, data cleansing, and techniques for handling multi-class data for binary classifiers.
- **Algorithmic Techniques:** Deep dive into predictive modeling using advanced Decision Trees, Classification and Association Rules, along with extending instance-based and local linear models.
- **Practical ML Tool-Kit:** Hands-on introduction to widely adopted machine learning platforms and libraries, including TensorFlow, Scikit-Learn, PyTorch, and visual tools like KNIME and WEKA.
- **Real-World Applications:** Features numerous fielded applications across healthcare, finance, e-commerce, and cybersecurity, including practical case studies for conceptual reinforcement.
- **Refining Predictions:** Discusses advanced concepts for enhancing model trustworthiness, such as evaluating numeric prediction models and calibrating class probabilities for reliable decision-making.

Author

Lekshmi S. Raveendran

Lekshmi S. Raveendran

Minu Susan Jacob

Minu Susan Jacob

R. Sathyabama Krishna



Java Programming for IoT

Author :	D. Deepa, E. Srividhya
ISBN 13 :	978-93-55383-52-5
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E-ISBN 13 :	978-93-55383-52-5
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Language :	English
Publisher :	Khanna Publishing House
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Categories :	Computer Science Engineering, New Arrivals, Book Store, Sathyabama Series
Condition Type :	New
Country Origin :	India

Product Description

JAVA PROGRAMMING FOR IOT is a comprehensive guide designed to bridge the gap between fundamental Object-Oriented Programming (OOP) concepts in Java and their practical application within the rapidly evolving landscape of the Internet of Things (IoT). The book's core purpose is to empower readers to develop complete, robust, and distributed application programs that can run across various connected systems. It meticulously covers the essentials of Java—from basic syntax, data types, and looping constructs to advanced OOP principles like Inheritance, Polymorphism, and Encapsulation. The curriculum seamlessly transitions into specialized, high-value IoT topics. Readers will master critical methodologies such as Exceptions Handling and Multi-threading, as well as essential socket programming techniques required for effective communication with connected devices. A key focus is the Java Development Environment for IoT, offering hands-on expertise with Java ME 8 and its deployment on Raspberry Pi using the NetBeans IDE. The practical learning culminates in detailed coverage of Application Management Systems (AMS), which includes managing the application lifecycle, configuring remote devices, and implementing strategies for securing IoT applications and ensuring data integrity in real-world scenarios. This text is an essential resource for a broad audience, including students, novice programmers eager to start their IoT journey, and experienced developers seeking to master innovative, secure, and distributed IoT solutions with the robust Java platform.

Salient Features:

- **Foundational OOP Skills:** Comprehensive coverage of core Object-Oriented Programming (OOP) concepts in Java, including Inheritance, Polymorphism, Abstraction, and Encapsulation, essential for building robust software.

- **IoT Thread Management:** Detailed units on multi-threading, thread synchronization, and managing the thread lifecycle (suspending/resuming) for building efficient and concurrent IoT Applications.
- **Embedded Development Kit:** Practical focus on setting up the Java development environment for IoT, utilizing Java ME 8, CLDC, and the NetBeans IDE for creating and deploying embedded applications.
- **Raspberry Pi Integration:** Step-by-step guidance on running the Java Runtime on a Raspberry Pi board, including using the Command Line Interface (CLI) for deployment and application testing.
- **Secure IoT Deployment:** Dedicated strategies for securing IoT applications and ensuring data integrity, covering topics like device authentication and the built-in security features of Java ME 8.
- **Application Lifecycle:** In-depth analysis of the Application Management System (AMS) for monitoring, remotely configuring, updating, and managing the entire lifecycle of deployed IoT solutions.
- **Device Communication:** Instruction on various socket programming methods to establish and manage communication channels, enabling Java programs to effectively interact with network-connected devices.
- **Notification & Alarms:** Practical modules on creating real-time event-driven notifications using PushRegistry and configuring Alarm Registration for comprehensive system monitoring in the AMS.

Author

D. Deepa

Deepa, Keerthana P., S. Praveen

E. Srividhya

E. Srividhya



Introduction to Data Science

Author : Sonia Jenifer Rayen, Sathyabama Krishna

ISBN 13 : 978-93-55385-54-3

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Pages : 168

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Publisher : Khanna Publishing House

M.R.P : Rs 298.00

Categories : [Computer Science Engineering,](#)
[New Arrivals, Book Store,](#)
[Sathyabama Series](#)

Condition Type : New

Country Origin : India

Product Description

In an era where data is the central driver of innovation, Introduction to Data Science offers a comprehensive and structured guide to navigating this transformative field. Designed for a broad audience including students, researchers, and professionals, this book provides a beginner-friendly approach to mastering fundamental concepts, core statistical methods, and essential predictive analytics.

The text seamlessly integrates theoretical principles with practical, real-world applications, empowering readers to not only grasp key concepts but also effectively apply them in diverse scenarios. The curriculum is meticulously structured, beginning with the foundational role and processes of Data Science and advancing through descriptive and inferential statistics, data quality management, and text data handling. It culminates by exploring the challenges and cutting-edge applications of Big Data.

The book demystifies the complete data science lifecycle—from formulating the right research questions and retrieving data to building predictive models, validating results, and deploying final applications. Beyond technical proficiency, it highlights the essential traits of a successful data scientist, such as curiosity, common sense, and communication, making it an invaluable resource for anyone seeking a robust, end-to-end understanding of data-driven decision-making in vital sectors like healthcare, finance, logistics, and AI.

Salient Features:

- **Foundational Concepts:** Provides a structured, beginner-friendly introduction to the field, covering the need for data science, its core components, and processes.
- **Statistical Core:** Delves into essential descriptive and inferential statistics, including data distribution analysis, correlation, regression, and crucial hypothesis testing techniques.

- **Data Quality Focus:** Dedicated unit on enhancing data quality, covering practical methods like data imputation, standardization, binning, and handling noise and outliers effectively.
- **Text Data Analytics:** Explores specialized techniques for handling unstructured text data, such as Bag-of-Words, tokenization, regular expressions, and real-world sentiment analysis.
- **Predictive Modeling:** Introduces the critical modeling phase, emphasizing algorithm selection, execution, and essential diagnostics for building and training performant models.
- **Big Data Context:** Addresses the challenges and use cases of Big Data, focusing on the three critical V's: Volume, Velocity, and Variety perspective.
- **Data Scientist Traits:** Highlights the crucial non-technical skills for success in the field, including the importance of curiosity, common sense, and effective communication.
- **Real-World Applications:** Features practical use cases and business examples across diverse industries like autonomous vehicles, e-commerce, and airline logistics.

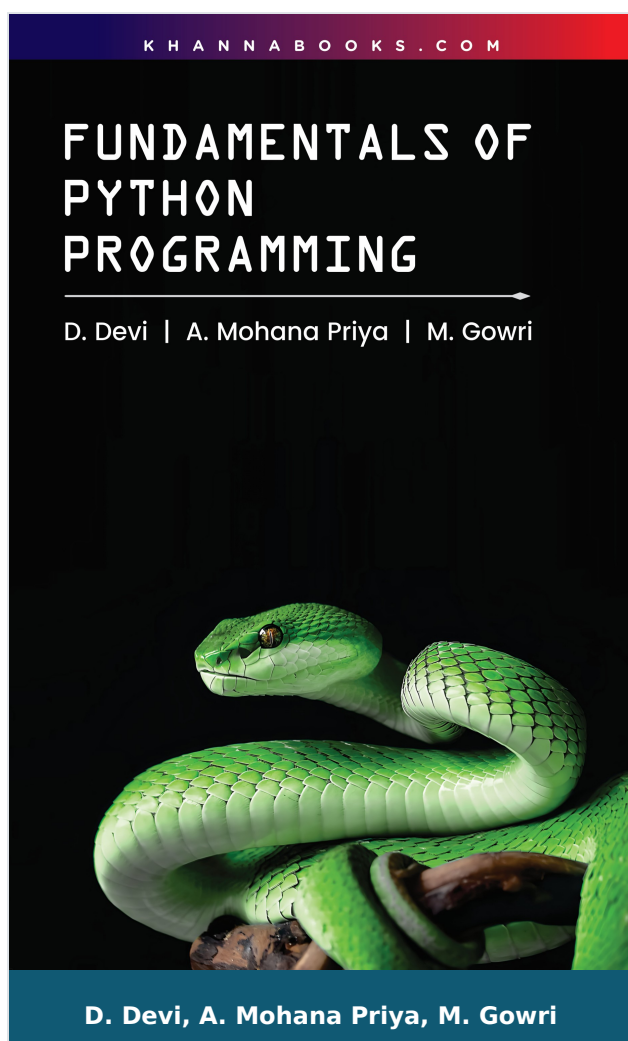
Author

Sonia Jenifer Rayen

Sonia Jenifer Rayen, Associate Professor, Dept of CSE, Sathyabhama Institute of Science and Technology

Sathyabama Krishna

Sathyabama Krishna



Fundamentals of Python Programming

Author : D. Devi, A. Mohana Priya, M. Gowri

ISBN 13 : 978-93-55382-31-3

ISBN 10 : 9355382316

E-ISBN 13 : 978-93-55382-31-3

Edition : First

Pages : 160

Type of book : Physical

Year : 2026

Language : English

Publisher : Khanna Publishing House

M.R.P : Rs 248.00

Categories : [Computer Science Engineering,](#)
[New Arrivals, Book Store,](#)
[Sathyabama Series](#)

Condition Type : New

Country Origin : India

Product Description

PROGRAMMING IN PYTHON is an essential, comprehensive resource designed to guide readers from foundational concepts to advanced application development in the world's most versatile programming language. The book's core purpose is to leverage Python's interpreted, high-level nature, which prioritizes readability and ease of use, making complex coding accessible to everyone. It systematically introduces the easy-to-understand syntax and covers crucial programming paradigms, including structured programming, working with data types, expressions, operator precedence, and robust Object-Oriented Programming (OOP) principles like Inheritance, Polymorphism, and Abstraction.

Beyond the fundamentals, this guide provides practical value by diving into the extensive Python ecosystem. Readers will learn to utilize major libraries like NumPy and Pandas for efficient data analysis, explore building Graphical User Interfaces (GUI) using the built-in Tkinter library, and establish database connectivity using PyMongo for MongoDB. Given Python's widespread use in web development, data science, artificial intelligence, and automation, this book is perfectly suited for a wide audience. It is an ideal textbook for students and newcomers seeking to master a powerful first language, and a valuable reference for professionals and developers looking to harness Python for real-world projects and demanding industry roles. Salient Features:

- **Foundational Syntax Mastery:** Provides a thorough understanding of Python's fundamental building blocks, covering basic data types, complex expressions, operator precedence, and essential control flow statements like if/else and for/while loops.
- **Object-Oriented Paradigms:** Explores core OOP concepts, including Inheritance, Encapsulation, and Polymorphism (method and operator overloading), with a focus on implementing Abstraction using the ABC module.

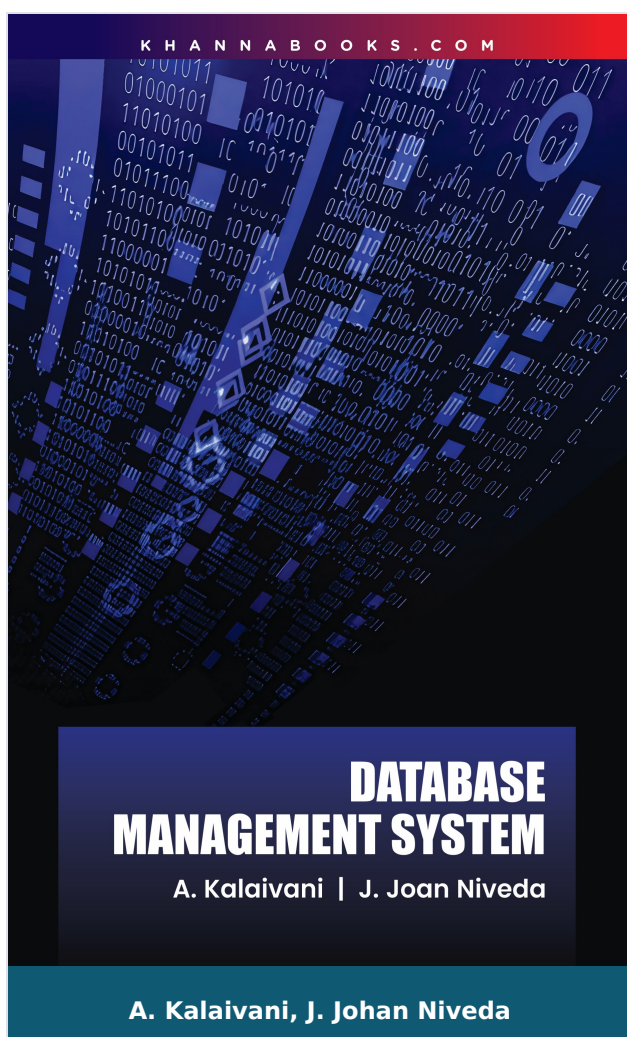
- **Data Analysis Libraries:** Features detailed chapters on NumPy for efficient numerical array operations and Pandas for structured data manipulation, equipping the reader with crucial skills for data science roles.
- **Interactive GUI Development:** Guides the reader through creating graphical applications using the built-in Tkinter library, covering essential widgets, layout managers, and handling various user events and bindings.
- **Database Connectivity:** Introduces practical NoSQL database integration using the PyMongo library. Learn to connect, insert, query, update, and manage documents and entire collections in MongoDB.
- **Ecosystem and Tools:** A comprehensive reference to Python's rich set of built-in functions, alongside instructions for creating and importing custom modules and managing dependencies using the pip tool.
- **Control Flow Structures:** Detailed explanation of all sequential control structures, from traditional if-elif-else statements to modern Python match-case statements, for managing program flow efficiently.
- **Real-World Applications:** Showcases Python's versatility across multiple domains, including scripting for automation, scientific computing, and leveraging major frameworks for modern web development like Django/Flask

Author

D. Devi

A. Mohana Priya

M. Gowri



Database Management System

Author : A. Kalaivani, J. Johan Niveda

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Product Description

The book, Database Management System, is an essential resource for navigating the data-driven landscape of the modern technological era. Recognizing that efficient, secure, and easily accessible data management is a critical task for all industries—from e-commerce to finance—this text provides a clear and comprehensive introduction to the field. Its core purpose is to build a strong theoretical foundation in database concepts while equipping readers with practical, real-world skills.

The text offers a structured learning pathway, commencing with foundational principles like the history, architecture, and characteristics of Database Management Systems (DBMS). It then delves into essential topics such as conceptual modeling using the Entity-Relationship (ER) model, relational schema design, and the crucial process of normalization (up to 5NF) to ensure database efficiency and data integrity. A significant portion of the book is dedicated to Structured Query Language (SQL), covering DDL, DML, DCL, and TCL commands, query execution, optimization, and transaction processing, including the vital ACID properties. Critically, the book extends beyond traditional relational systems to address modern trends, dedicating a chapter to Concurrency Control, Recovery Techniques, and NoSQL DBMS.

Intended for undergraduate students in Computer Science, IT, and Data Science, this book is also an invaluable reference for software engineers and data analysts seeking to refine their skills. Through numerous step-by-step explanations, hands-on exercises, and practical implementations using real-world scenarios, the book successfully bridges the gap between academic theory and industry application, preparing readers for real-world database challenges.

Salient Features:

- **ER & Relational Modeling:** Presents in-depth coverage of the Entity-Relationship (ER) model and systematic procedures for mapping ER diagrams to a relational schema, incorporating all essential integrity constraints.
- **Schema Refinement:** Offers a detailed exploration of functional dependencies and normalization techniques (up to 5NF). This knowledge ensures the creation of efficient, scalable database designs that minimize redundancy and anomalies.
- **Comprehensive SQL:** Provides hands-on instruction for mastering all facets of Structured Query Language (SQL), including DDL, DML, DCL, and TCL commands, complex joins, and advanced subqueries.
- **Query Optimization:** Dedicated unit on query processing, covering the translation of SQL into relational algebra, and heuristic optimization techniques to improve data retrieval speed and database performance.
- **Transaction Integrity:** Focuses on the fundamental principles of transaction processing, detailing the ACID properties (Atomicity, Consistency, Isolation, Durability) and methods for ensuring recoverability and serializability.
- **Concurrency & Recovery:** Explores advanced techniques like Two-Phase Locking (2PL), timestamp protocols for concurrency control, and robust recovery mechanisms such as deferred updates and shadow paging.
- **Practical Hands-on Learning:** Features dedicated "Practical" sections in every chapter, providing step-by-step implementation of SQL commands, schema design projects, and application of NoSQL data models using industry tools.

Author

A. Kalaivani

J. Johan Niveda