

Artificial Intelligence, Machine Learning and Data Science

Research Perspectives and Emerging Applications

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Artificial Intelligence, Machine Learning and Data Science: Research Perspectives and Emerging Applications



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Artificial Intelligence, Machine Learning and Data Science: Research Perspectives and Emerging Applications

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Preface

Artificial Intelligence (AI), Machine Learning (ML), and Data Science have emerged as transformative fields that are reshaping research, industry, and society. The rapid advancement of intelligent algorithms, computational technologies, and data-driven methodologies has created new opportunities for solving complex problems, improving decision-making, and developing innovative solutions across diverse domains.

The book *Artificial Intelligence, Machine Learning and Data Science: Research Perspectives and Emerging Applications* provides a comprehensive academic overview of these interconnected disciplines. It brings together fundamental concepts, contemporary research perspectives, methodologies, and emerging applications to help readers understand both the theoretical foundations and practical significance of intelligent and data-driven technologies.

The chapters cover important areas including machine learning, data analytics, deep learning, intelligent systems, predictive modeling, emerging AI applications, and future technological developments. The book also addresses current challenges, research opportunities, and the growing importance of interdisciplinary approaches. Through these perspectives, readers can gain insight into how AI, ML, and Data Science are being applied to address real-world problems in healthcare, education, business, finance, agriculture, engineering, and other sectors.

This book is intended for undergraduate and postgraduate students, research scholars, academicians, educators, technology professionals, and readers interested in the rapidly evolving landscape of intelligent technologies. It can serve as a useful reference for academic learning, research development, and exploring emerging technological trends.

As AI, ML, and Data Science continue to evolve, continuous research, responsible innovation, and interdisciplinary collaboration will be essential. It is hoped that this book will encourage readers to explore new research directions, develop innovative applications, and contribute to the responsible advancement of intelligent and data-driven technologies.

Acknowledgement

The completion of Artificial Intelligence, Machine Learning and Data Science: Research Perspectives and Emerging Applications has been made possible through the support, encouragement, and contributions of many individuals.

We sincerely express our gratitude to the academicians, researchers, scholars, educators, and professionals whose valuable research and ideas have contributed to the development of knowledge in Artificial Intelligence, Machine Learning, and Data Science. Their continuous efforts and innovations have provided significant inspiration for this work.

We are especially thankful to all contributors and reviewers who devoted their time, expertise, and constructive suggestions to the preparation and refinement of the chapters. Their scholarly insights have helped strengthen the academic quality and relevance of this book.

We also extend our sincere appreciation to our colleagues, institutions, and professional associates for their cooperation, encouragement, and valuable discussions throughout the preparation of this work. Their support played an important role in bringing this book to completion.

Our heartfelt thanks go to our families and friends for their patience, understanding, and constant encouragement during the writing and compilation process. Their support provided motivation throughout this academic endeavor.

Finally, we acknowledge the researchers, developers, and organizations whose ongoing advancements continue to shape the fields of AI, ML, and Data Science. We hope this book serves as a valuable resource for students, researchers, academicians, and professionals and encourages further research, innovation, and responsible technological development.

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