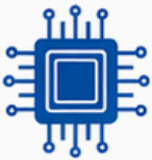




AI-DRIVEN INNOVATION

Interdisciplinary Research in
Technology, Education and Industry



TECHNOLOGY



EDUCATION



INDUSTRY

Dr. Sangeeta Shashikant Shinde

Dr. Sonali Sagar Gholve

Asst.Prof. Sakshi Jadhav



AI-Driven Innovation: Interdisciplinary Research in Technology, Education and Industry



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AI-Driven Innovation: Interdisciplinary Research in Technology, Education and Industry

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Preface

Welcome to the first issue of **"AI-Driven Innovation: Interdisciplinary Research in Technology, Education, and Industry"**. This volume is the **official proceedings of the Two Days National Seminar on “Artificial Intelligence and Machine Learning”**. Seminar bringing together insightful research, scholarly perspectives, and contemporary academic discourse. This publication reflects enduring commitment to knowledge creation, research advancement, and academic excellence.

This book is a platform for exploring and sharing groundbreaking technology research. We're excited to present a collection of papers that show the wide range and depth of current research in Machine learning and AI.

The chapters in this volume collectively reflect the dynamic integration of Artificial Intelligence across education, industry, and society, aligning with the transformative vision of NEP 2020. From AI-enabled learning, smart agriculture, and healthcare innovations to advancements in software engineering, cybersecurity, and e-commerce, the contributions highlight both opportunities and challenges in the digital era. The book also explores critical dimensions such as ethical concerns, algorithmic bias, and human–AI interaction. Bringing together diverse research perspectives, this compilation aims to inspire innovation, promote interdisciplinary learning, and provide meaningful insights into the evolving landscape of intelligent technologies.

We extend our sincere thanks to the authors for their invaluable contributions and to our dedicated editors:

Dr. Sangeeta Shashikant Shinde

Dr. Sonali Sagar Gholve

Asst.Prof. Sakshi Jadhav

The quality and relevance of this book have been significantly influenced by their dedication to upholding rigorous academic standards.

We are deeply grateful to the publishers for their assistance in bringing this book to reality, as well as to each and every one of the contributors for their significant contributions.

We are continually investigating and documenting novel technological innovations, and we are excited about your participation. We encourage you to engage with the research in "**AI-Driven Innovation: Interdisciplinary Research in Technology, Education, and Industry**", contribute to the discussions, and help us expand what's possible. This platform is not merely a publication; it is a team effort that has the potential to shape the future of technology.

Thank you for your support and readership. We look forward to the exciting research and discussions that will emerge from our collective efforts.

Acknowledgements

Publishing the first edition of "**AI-Driven Innovation: Interdisciplinary Research in Technology, Education, and Industry**" was a collaborative effort, and we owe a huge thank you to everyone who helped make it a reality. This book stands on the shoulders of its contributors, whose innovative research and dedication to technological progress are truly remarkable. Their insights are invaluable and essential to expanding knowledge in these critical fields.

We would like to express our heartfelt gratitude and indebtedness to Mr. Sanjay Nahar, President of Sarhad, Mrs. Sushma Nahar, Secretary of Sarhad, Mr. Shailesh Wadekar, Trustee of Sarhad, Mr. Anuj Nahar, Trustee of Sarhad, and Principal Dr. Sangeeta Shinde for their invaluable and meticulous support at each and every stage of work.

A special note of thanks goes to our publisher. Their expertise and continuous support were key to getting this journal off the ground. Their dedication to quality and meticulous work transformed our vision into a successful publication.

Thank you to our readers and all supporters. Your interest in this book fuels our passion for exploring the future of M and AI and new technologies. We are excited to continue this journey with you and appreciate your ongoing support.

Thank you all for your invaluable contributions and support.

Warm regards,

Dr. Sangeeta Shashikant Shinde

Dr. Sonali Sagar Gholve

Asst.Prof. Sakshi Jadhav

About the Editors



Principal Dr. Sangeeta Shashikant Shinde is an eminent academic leader, economist, and researcher with over two decades of distinguished service in higher education. As Professor and Principal of Sarhad College of Arts, Commerce and Science, she has consistently advanced academic excellence, research culture, and institutional development in alignment with NEP 2020.

A Ph.D. in Economics with specialization in Monetary Economics, Banking, and Public Finance, she is a recognized PG Teacher and Ph.D. Guide under Savitribai Phule Pune University. Her scholarly portfolio includes 18 published books as author, co-author, and editor, along with significant research contributions in reputed national and international journals.

Recipient of prestigious honours such as the Dr. Sarvepalli Radhakrishnan Shikshanratna Puraskar and Maharashtra Ideal Award, Dr. Shinde is widely respected for her academic leadership and intellectual contributions.

As the Convenor and Editor of the National Seminar, she presents this volume as the official proceedings of the seminar bringing together insightful research, scholarly perspectives, and contemporary academic discourse. This publication reflects her enduring commitment to knowledge creation, research advancement, and academic excellence.



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ABOUT THE BOOK

AI-Driven Innovation: Interdisciplinary Research in Technology, Education and Industry explores the transformative role of artificial intelligence across multiple domains, highlighting how emerging technologies are reshaping modern society. The book brings together diverse perspectives from researchers and academicians to examine the integration of AI in technological advancement, educational transformation, and industrial development.

It emphasizes the importance of interdisciplinary collaboration in solving complex real-world problems, demonstrating how AI-driven solutions can enhance efficiency, decision-making, and innovation. In the field of education, the book discusses personalized learning, intelligent tutoring systems, and digital transformation in teaching methodologies. From an industrial perspective, it highlights automation, smart manufacturing, and data-driven strategies that are revolutionizing business operations.

The volume also addresses ethical considerations, challenges, and future opportunities associated with AI adoption, encouraging responsible and sustainable innovation. By combining theoretical insights with practical applications, the book serves as a valuable resource for academicians, researchers, students, and industry professionals. It aims to inspire new research directions and foster a deeper understanding of how AI can be leveraged to create impactful, inclusive, and future-ready ecosystems.



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