Smart Finance:

AI Applications in Risk Control and Decision Management

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Preface

The rapid integration of Artificial Intelligence (AI) into the fabric of global finance is reshaping how risks are assessed, decisions are made, and value is delivered. As financial institutions navigate the challenges of digital disruption, regulatory complexity, and rising customer expectations, the role of AI has shifted from being a technological curiosity to a strategic necessity.

"Smart Finance: AI Applications in Risk Control and Decision Management" is a response to this evolving paradigm. This book was conceived as a comprehensive exploration of the transformative impact of AI technologies—such as machine learning, natural language processing, and predictive analytics—on the financial sector's most critical functions. It presents a carefully curated blend of theoretical insights, practical tools, and real-world case studies, aiming to offer clarity and direction in a field characterized by constant change.

Written collaboratively by four authors with diverse academic, research, and industry backgrounds, this work reflects our shared commitment to advancing the understanding of intelligent financial systems. Each of us has contributed unique perspectives and expertise, enriching the content with interdisciplinary insights and applied knowledge. Together, we have attempted to provide a structured yet accessible guide for finance professionals, technologists, students, regulators, and scholars.

Across its chapters, this book examines the core themes of AI-driven risk management, algorithmic decision-making, fraud detection, credit scoring, and ethical compliance. More than just celebrating technological advancements, we critically engage with the risks, limitations, and ethical concerns that arise from deploying AI in high-stakes financial environments.

We envision this book as more than a reference—it is an invitation to think critically, act responsibly, and innovate boldly in the realm of smart finance. We are deeply grateful to the institutions, colleagues, and readers who continue to inspire our work. It is our hope that this book becomes a valuable companion in your journey through the evolving landscape of AI-powered finance.

Ackowledgement

We, the authors of **Smart Finance AI Applications in Risk Control and Decision Management**, wish to express our deepest gratitude to all those who supported us throughout the journey of writing this book.

Our sincere thanks go to the academic mentors, research supervisors, and industry professionals whose expertise and insights into financial technologies, AI applications, and risk management greatly influenced the structure and depth of this work. Their guidance was instrumental in shaping our understanding and ensuring the relevance of each chapter.

We also acknowledge the contributions of the data scientists, financial analysts, and institutional leaders who shared valuable case studies and practical insights. Their cooperation enriched the book with real-world relevance and made complex applications more accessible.

We are especially thankful to our families and friends for their patience, encouragement, and unwavering support. Their belief in our vision and their understanding during long hours of research and writing kept us motivated and focused.

Our appreciation also extends to the editorial and publishing teams, whose attention to detail and commitment to excellence ensured the quality and clarity of this book. Their efforts were crucial in bringing our ideas to life in print.

Lastly, we dedicate this work to the wider community of finance professionals, scholars, and students who are navigating the dynamic intersection of artificial intelligence and financial decision-making. It is our hope that this book contributes meaningfully to that journey and inspires innovation with responsibility.

With gratitude,

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Dr. Sarika Keswani
Dr. Manisha Kaushal Arora
Dr. Rakhi Chauhan
Dr. Ashneet Kaur

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About the Authors

Dr. Sarika Keswani is an Assistant Professor of 'Finance and Accounting' at Symbiosis Centre for Management Studies, Nagpur, Maharashtra. She holds Ph.D. in Finance from Symbiosis International (Deemed) University Pune. Her research interests are in the areas of 'Stock Market,' 'Behavioral Finance,' and 'Mutual Fund.' She has also presented papers at several international and national level professional conferences. She has published more than 30 research articles in reputed journals and conferences in the domain of Accounting, Finance and Economics and also published 3 text books.

Dr. Manisha Kaushal Arora is an accomplished academician with a diverse educational background and significant contributions to her field. She holds a Ph.D. from Bharati Vidyapeeth Deemed University, Pune, focusing on a specific area of start ups and Micro finance Institution. Her academic journey includes an MBA from Guru Gobind Singh Indraprastha University and an MA in Economics from Maharishi Dayanand University, highlighting her interdisciplinary approach and expertise.

As an Associate Professor at Gitarattan International Business School (affiliated with GGSIPU), Dr. Manisha plays a crucial role in academia, contributing actively to research and education. She is recognized as a certified innovation ambassador of AICTE (All India Council for Technical Education), underscoring her commitment to fostering innovation within the academic community.

Dr. Manisha's editorial roles further showcase her

leadership and academic influence. She served as the editor of the 13th edition of the Journal of GIBS (J-GIBS 21) and of the upcoming edition i.e. 16th edition and has also been the editor of e-books for international conferences hosted by GIBS in both 202,1 2022, 2024 and upcoming conference of 2025. These roles highlight her involvement in scholarly publishing and her role in promoting academic discourse at an international level.

Her research contributions are substantial, with publications in reputable journals indexed in Scopus and UGC Care. Additionally, Dr. Manisha has presented numerous papers at international conferences, further cementing her reputation as a respected researcher and presenter in her field.

Overall, Dr. Manisha's academic journey reflects a deep commitment to research, education, and scholarly publication, contributing significantly to the academic community and advancing knowledge in her area of expertise.

Dr. Rakhi Chauhan is an accomplished academician currently serving as an Assistant Professor at the School of Management, ITM University Gwalior. With a Post Doctorate in Commerce, she brings a rich blend of scholarly insight and practical understanding to her teaching and research.

Dr. Chauhan specializes in Ethics, Accounting, and Finance, and her work reflects a deep commitment to exploring the moral dimensions of business practices and financial integrity. Her academic contributions include research papers, thought leadership articles, and active participation in national and international conferences.

She is widely appreciated for her student-centric teaching approach and her ability to translate complex

financial concepts into real-world applications. This book is a reflection of her dedication to academic excellence and her passion for fostering ethical and financially sound business practices in future leaders.

Dr. Ashneet Kaur is an accomplished educator and researcher with a PhD in Economics, specializing in rural women's economic development in India.She is currently a Associate Profesoor in Jaganaath International Management School, Vasant Kunj. With extensive teaching experience of 14 years at various esteemed institutions, she has a proven track record in fostering academic excellence and student engagement. Dr. Kaur is a prolific author, contributing to various journals and conferences, with a strong focus on topics such as FDI and its impact on economic growth, rural development, and the role of technology in education.

Her dedication to academic research is complemented by her leadership roles, where she serves as Club Coordinator Entrepreneurship Cell, Faculty Head of the Management Club and coordinates major research projects. Dr. Kaur is passionate about empowering her students, aiming to inspire future leaders while promoting a collaborative and innovative learning environment. With a commitment to aligning her personal goals with institutional objectives, she strives to make a meaningful impact in the academic community and beyond, shaping her students into responsible citizens and informed professionals.

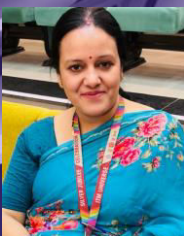# Table of Contents

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ABOUT THE BOOK:

Smart Finance AI Applications in Risk Control and Decision Management explores the transformative impact of artificial intelligence on the modern financial landscape. Bridging theory and practice, this book examines how AI technologies are revolutionizing risk assessment, fraud detection, decision-making, and financial forecasting. It provides deep insights into machine learning, predictive analytics, and intelligent automation within banking, investment, and fintech sectors. Designed for researchers, professionals, and students, the book offers real-world case studies and strategic frameworks to understand the opportunities and challenges of AI-driven finance. It is a timely guide for navigating the future of intelligent financial systems.