

# Preface

The rapid evolution of Artificial Intelligence (AI) has led to transformative impacts across diverse application domains, including healthcare, finance, transportation, energy, and manufacturing. As multidomain systems become increasingly interconnected and complex, there is a growing need for intelligent decision-making frameworks and automation solutions that can adapt, learn, and optimize dynamically. This edited book, *Artificial Intelligence in Multidomain Systems for Intelligent Decision Making and Automation*, presents a collection of cutting-edge research contributions that explore hybrid AI models, data-driven techniques, and interdisciplinary innovations designed to enhance autonomous decision-making capabilities. Each chapter delves into specialized areas where AI technologies—ranging from deep learning and reinforcement learning to swarm intelligence and neuro-symbolic reasoning—are integrated to solve real-world challenges. The book aims to serve as a comprehensive reference for researchers, practitioners, and students seeking to understand and contribute to the next generation of intelligent, scalable, and robust AI-driven systems across multidomain environments.