



INNOVATIONS AND APPLICATIONS OF ARTIFICIAL INTELLIGENCE IN ELECTRICAL AND ELECTRONICS ENGINEERING

Editors

Mohammed WADI

Mohammed SALEMDEEB

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Innovations and Applications of Artificial Intelligence in Electrical and Electronics Engineering

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PREFACE

Artificial Intelligence (AI) has revolutionized various engineering disciplines, providing innovative solutions to complex challenges. *Innovations and Applications of Artificial Intelligence in Electrical and Electronics Engineering* delves into the transformative impact of AI in these fields, highlighting cutting-edge research, advanced methodologies, and practical implementations.

This book comprehensively explores AI-driven advancements, encompassing intelligent control systems, fault detection, predictive maintenance, renewable energy forecasting and optimization, and automation in electrical and electronic systems. The chapters focus on enhancing system efficiency, reliability, and sustainability by integrating AI techniques such as machine learning, deep learning, and optimization algorithms.

Targeted at researchers, academics, engineers, and professionals, this book bridges the gap between AI theory and real-world applications. It presents fundamental concepts and advanced developments, providing insights into AI-powered engineering solutions' latest trends and future directions.

We sincerely appreciate the contributors whose expertise has enriched this first volume. We hope this book is a valuable resource, inspiring further innovation and research in AI-driven electrical and electronics engineering.

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