

Premier Reference Source

# Utilizing Renewable Energy, Technology, and Education for Industry 5.0

Sofia Kajabi, Saeid M. Mirzaei



# Table of Contents

<b>Preface</b> .....	xviii
<b>Acknowledgment</b> .....	xxii
<b>Chapter 1</b>	
Challenges and Future Prospects in Industrial Revolution 5.0 .....	1
<i>Ahgalya Subbiah, Management and Science University, Malaysia</i>	
<b>Chapter 2</b>	
Design and Modeling of an AI-Powered Industrial Maximum Demand Controller With Web Service Interface .....	23
<i>Abudhahir Buhari, Infrastructure University, Kuala Lumpur, Malaysia</i>	
<i>Asif Iqbal Hajamydeen, Management and Science University, Malaysia</i>	
<i>Tadiwa Elisha Nyamasvisva, Infrastructure University, Kuala Lumpur, Malaysia</i>	
<i>Selvi Salome, Protasco Bhd, Malaysia</i>	
<b>Chapter 3</b>	
Dynamics of Feature Selection in Machine Learning for IR 5.0 .....	81
<i>Asif Iqbal Hajamydeen, Management and Science University, Malaysia</i>	
<i>Rabab Alayham Abbas Helmi, Management and Science University, Malaysia</i>	
<i>Md Gapar Md Johar, Management and Science University, Malaysia</i>	
<i>Abudhahir Buhari, Infrastructure University, Kuala Lumpur, Malaysia</i>	
<b>Chapter 4</b>	
Empowering Industry 5.0: Nurturing a STEM-Ready Workforce Through Education and Innovation .....	102
<i>Surjit Singha, Kristu Jayanti College (Autonomous), India</i>	
<b>Chapter 5</b>	
Empowering Industry 5.0: Nurturing STEM Tertiary Education and Careers Through Additional Mathematics .....	124
<i>Chuan Zun Liang, Universiti Malaysia Pahang Al-Sultan Abdullah, Malaysia</i>	
<i>Abraham Lim Bing Sern, Universiti Malaysia Pahang Al-Sultan Abdullah, Malaysia</i>	
<i>Tan Chek Cheng, Universiti Malaysia Pahang Al-Sultan Abdullah, Malaysia</i>	
<i>David Lau King Luen, Universiti Malaysia Pahang Al-Sultan Abdullah, Malaysia</i>	
<i>Nursultan Japashov, University at Albany, USA</i>	
<i>Tan Ee Hiae, Sekolah Menengah Kebangsaan Semambu, Malaysia</i>	

<b>Chapter 6</b>	
Empowering Industry 5.0: A Data-Driven Exploration of Renewable Energy's Catalytic Role in Digital Transformation.....	156
<i>Lamiae Sarsar, University Mohammed V, Morocco</i>	
<i>Abdellah Echaoui, University Mohammed V, Morocco</i>	
<b>Chapter 7</b>	
Evaluation of Globalization in the Context of Energy: Turkey's Energy Policy Risks.....	170
<i>Murat Madan, Çankaya University, Turkey</i>	
<i>Dilek Temiz, Çankaya University, Turkey</i>	
<i>Mahir Nakip, Çankaya University, Turkey</i>	
<i>Aytaç Gökmen, Çankaya University, Turkey</i>	
<b>Chapter 8</b>	
Green Computing-Based Optimization Technique for Sustainable Educational Center With Hybrid Renewable Energy Sources .....	199
<i>Dharmbir Prasad, Asansol Engineering College, India</i>	
<i>Rudra Pratap Singh, Asansol Engineering College, India</i>	
<i>Ariba Rizwan, Asansol Engineering College, India</i>	
<i>Shubham Verma, AmyGB.ai Private Limited, India</i>	
<i>Md. Irfan Khan, IAC Electricals Pvt. Ltd., India</i>	
<b>Chapter 9</b>	
Green Human Resource Management and Economic Performance .....	226
<i>Sridevi Nair, Christ University, India</i>	
<i>Sanjana Sampath, Sriram Housing Finance Ltd., India</i>	
<b>Chapter 10</b>	
Industry 5.0 Revolution: Urban Efficiency in Optimizing Road Banning With Smart Sensors .....	239
<i>Ahgalya Subbiah, Management and Science University, Malaysia</i>	
<i>Ahgalya Subbiah, Management and Science University, Malaysia</i>	
<b>Chapter 11</b>	
Innovations in Healthcare and Biotechnology Driven by Industry 5.0 .....	258
<i>Vijay Anand Srinivasan, Sri Venkateswara College of Engineering, India</i>	
<i>M. Annalakshmi, Karpagam College of Engineering, India</i>	
<i>C. Priya, Siddharth Institute of Engineering and Technology, India</i>	
<b>Chapter 12</b>	
Integrating the Sustainable Supply Chain With Renewable Energy: A Fuzzy Framework for the Photovoltaic Supply Chain.....	275
<i>Badr Bentaha, National School of Business and Management, Sidi Mohammed Ben Abdellah University, Morocco</i>	

<b>Chapter 13</b>	
Integrating Wazuh for Efficient Real-Time Threat Monitoring and Vulnerability Assessment in a SOC Environment .....	292
<i>Asif Iqbal Hajamydeen, Management and Science University, Malaysia</i>	
<i>Muhammad Danial Hasni, Management and Science University, Malaysia</i>	
<i>Muhammad Irsyad Abdullah, Management and Science University, Malaysia</i>	
<b>Chapter 14</b>	
IR5.0 Eco-Future Building Sustainability for Tomorrow's Humanity .....	321
<i>Asmaa Mahfoud Alhakimi, Management and Science University, Malaysia</i>	
<b>Chapter 15</b>	
Rethinking Higher Education in a New Digital Era .....	334
<i>Wong Sing Yun, Universiti Malaysia Sabah, Malaysia</i>	
<i>Sai Hoe Fu, Pejabat Pendidikan Daerah Sandakan, Malaysia</i>	
<i>Sarimah Binti Surianshah, Universiti Malaysia Sabah, Malaysia</i>	
<i>Jain Yassin, Universiti Teknologi MARA, Malaysia</i>	
<i>Nurliyana Binti Juhan, Universiti Malaysia Sabah, Malaysia</i>	
<b>Chapter 16</b>	
Sustainable Manufacturing Through Digital Twin and Reinforcement Learning .....	357
<i>Di Wang, Foxconn, USA</i>	
<b>Chapter 17</b>	
The Catalyst for Transformation in Education 5.0 .....	376
<i>Noor Hafizah Mahamarowi, Management and Science University, Malaysia</i>	
<i>Siti Nor Katijah Mohd Jamil, Management and Science University, Malaysia</i>	
<i>Abdullah Pirus Leman, Management and Science University, Malaysia</i>	
<i>Revathi Aruchunan, Management and Science University, Malaysia</i>	
<b>Chapter 18</b>	
The Power of Technology in Industrial Revolution 5.0 .....	400
<i>Asmaa Mahfoud Alhakimi, Management and Science University, Malaysia</i>	
<b>Chapter 19</b>	
Understanding Timor-Leste's Energy Transition: Analyzing Achievements and Challenges .....	444
<i>João Simões, City University of Macau, Macau</i>	
<b>Compilation of References</b> .....	460
<b>About the Contributors</b> .....	508
<b>Index</b> .....	512