

# Case Study on the Social Impact of Intelligent Technologies: An Overview

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## Abstract

Artificial intelligence (AI) can enhance operational procedures by utilizing data, advanced algorithms, and faster computational abilities. These technologies, such as robotics, machine learning, and IoT, are increasingly prevalent in modern life. They learn, adapt, and improve based on their interactions with the environment and data. This chapter presents a unified strategy for investigating intelligent technologies, addressing four critical issues:

# Table of Contents

<b>Preface</b> .....	xxii
<b>Chapter 1</b>	
A DNN Approach to Design a Smart Security System for Android Platform.....	1
<i>Diptimayee Sahu, Berhampur University, India</i>	
<i>Satya Narayan Tripathy, Berhampur University, India</i>	
<i>Sisira Kumar Kapat, Berhampur University, India</i>	
<i>Soujanya Morty, Berhampur University, India</i>	
<b>Chapter 2</b>	
An Efficient Early Diagnosis and Healthcare Monitoring System for Mental Disorders Using Machine Learning .....	22
<i>C. Kishor Kumar Reddy, Stanley College of Engineering and Technology for Women, India</i>	
<b>Chapter 3</b>	
Annotations of Machine Learning in Communication and Identification Systems Pertaining to Security Aspects: ML Applications in Security and Identity .....	44
<i>Dillip Rout, Sandip University, India</i>	
<i>Swati Gawand, Sandip University, India</i>	
<i>Jayashree Mahale, Sandip University, India</i>	
<i>Joseph Wheeder, Sandip University, India</i>	
<b>Chapter 4</b>	
Applied Neural Networks in Mechatronics for Intelligent Engineering Applications: Enhancing Mechatronic Systems With Applied Neural Networks – Augmentation in Intelligent Engineering ....	69
<i>Prasenjit Maji, Dr. B.C. Roy Engineering College, Durgapur, India</i>	
<i>Kunal Dhibar, Bengal College of Engineering and Technology, India</i>	
<b>Chapter 5</b>	
Case Study on the Social Impact of Intelligent Technologies: An Overview.....	85
<i>Rakesh Nayak, O.P. Jindal University, India</i>	
<i>Satyabrata Dash, GITAM University, India</i>	
<i>Praveen Gupta, GITAM University, India</i>	
<i>Umashankar Ghugar, Department of CSE, O P Jindal University, Raigarh, India</i>	

## Chapter 6

- Combinations of Biotechnology and Nanotechnology in Industrial Wastewater Treatment ..... 96  
*Sunil Jayant Kulkarni, Gharda Institute of Technology, India*

## Chapter 7

- Detection of Cyber Threats From Suspicious URLs Using Multi-Classification Approach ..... 107  
*Sanjukta Mohanty, KIIT University (Deemed), India*  
*Sourav Nanda, OUTR, India*  
*Rupayan Rout, OUTR, India*  
*Arpan Kumar, OUTR, India*  
*Arup Abhinna Acharya, KIIT University (Deemed), India*  
*Namita Panda, KIIT University (Deemed), India*  
*Vansam Agrawal, OUTR, India*

## Chapter 8

- Detection of Damaged Inserts of Cutting Tools Using Deep Learning ..... 130  
*Ritu Maity, KIIT University (Deemed), India*

## Chapter 9

- Energy and Battery Management in the Era of Cloud Computing: Sustainable Wireless Systems and Networks ..... 141  
*Sandip D. Satav, Department of Information Technology, JSPM's Jayawantrao Sawant COE, Pune, India*  
*Dharmanna Lamani, School of Computing and Information Technology, Reva University Rukmini Knowledge Park, Bengaluru, India*  
*Harsha K. G., Department of Computer Science, JSS Academy of Technical Education, India*  
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*S. Manikandan, Department of Electrical and Electronics Engineering, Karpagam Institute of Technology, India*  
*Boopathi Sampath, Department of Mechanical Engineering, Muthyammal Engineering College, Namakkal, India*

## Chapter 10

- Face Detection And Recognition Through Live Stream ..... 167  
*Pardhu Thottempudi, BVRIT HYDERABAD College of Engineering for Women, India*

## Chapter 11

- FaceTrace: Automated Facial Recognition Attendance System ..... 178  
*Salman Khurshid, Jawaharlal Nehru University, India*  
*Aamir Ansari, Jawaharlal Nehru University, India*  
*Ayush Verma, Jawaharlal Nehru University, India*  
*Piyush Pratap Singh, Jawaharlal Nehru University, India*  
*Manju Khari, Jawaharlal Nehru University, India*

## **Chapter 12**

Fusing Technology and Sustainability: Exploring New Horizons in Mechanical Engineering and Business Analysis ..... 194

*Kali Charan Rath, GIET University, India*

*Lakshmi Prasad Panda, GCE Kalahandi, Bhawanipatna, India*

*Debasis Mishra, BPUT Rourkela, India*

*Saroj Kumar Acharya, Siksha 'O' Anusandhan (Deemed), India*

*Amaresh Kumar, National Institute of Technology, Jamshedpur, India*

## **Chapter 13**

Heart Stroke Prediction Using Machine Learning Techniques..... 221

*Meenu Vijarana, K.R. Mangalam University, India*

*Swati Gupta, K.R. Mangalam University, India*

*Nitin Kumar, K.R. Mangalam University, India*

*Rohit Kumar, K.R. Mangalam University, India*

## **Chapter 14**

Implementation and Analysis of Various Machine Learning Algorithms for the Diagnosis of Autism Spectrum Disorder Using Matlab ..... 246

*Hindumathi Voruganti, BVRIT HYDERABAD College of Engineering for Women, India*

*Ameya Endla, BVRIT HYDERABAD College of Engineering for Women, India*

*B. Vaibhavi, BVRIT HYDERABAD College of Engineering for Women, India*

*Kavya Sri Vatadi, BVRIT HYDERABAD College of Engineering for Women, India*

*Jennifer Chalichemala, BVRIT HYDERABAD College of Engineering for Women, India*

## **Chapter 15**

Integrating Renewable Energy Sources Into Existing Energy Systems for Achieving a Low-Carbon Energy Transition ..... 262

*Ushaa Eswaran, Indira Institute of Technology and Sciences, India*

## **Chapter 16**

Leveraging IoT and Machine Learning for Improved Health Prediction Systems..... 278

*Pardhu Thottempudi, BVRIT HYDERABAD College of Engineering for Women, India*

## **Chapter 17**

Next Generation of Internet of Things (NGIoT) in Healthcare Systems ..... 307

*Sandip D. Satav, Department of Information Technology, JSPM's Jayawantrao Sawant COE, India*

*Dler Salih Hasan, Department of Computer Science and Information Tech, College of science, Salahaddin University, Iraq*

*R. Pitchai, Department of Computer Science and Engineering, B.V. Raju Institute of Technology, India*

*T. A. Mohanaprakash, Department of Computer Science and Engineering, Panimalar Engineering College, India*

*S. J. Sultanuddin, Department of Cyber Security, Dhanalakshmi College of Engineering, India*

*Sampath Boopathi, Department of Mechanical Engineering, Muthayammal Engineering College, India*

## **Chapter 18**

Orange Peel-Facilitated Adsorption of Methylene Blue Dye ..... 331

*V. R. Chaudhari, Universty Institute of Chemical Technology, Kavayitri Bahinabai*

*Chaudhari North Maharashtra University, India*

*Ajaygiri K. Goswami, Universty Institute of Chemical Technology, Kavayitri Bahinabai*

*Chaudhari North Maharashtra University, India*

*Sunil Jayant Kulkarni, Gharda Institute of Technology, India*

## **Chapter 19**

Prediction Analysis of Gen Zers' Attitudes on Ecological Consciousness..... 342

*Koppala Venugopal, Aditya Institute of Technology and Management, India*

*Saumendra Das, GIET University, India, India*

*Hassan Refaat Hassan Badawy, Luxor University, Egypt*

## **Chapter 20**

Role of Cryptography, Blockchain, and Digital Forensics in Vehicular Networks ..... 358

*Aradhana Behura, National Institute of Technology, Rourkela, India*

## **Chapter 21**

Smart Agriculture Applications Using Internet of Things ..... 380

*S. Sethuraman, School of Computer Science Engineering and Information Systems, Vellore*

*Institute of Technology (VIT), Vellore, India*

*Brijendra Singh, School of Computer Science Engineering and Information Systems, Vellore*

*Institute of Technology (VIT), Vellore, India*

## **Chapter 22**

Studies on Electroencephalogram for Upper Limb Rehabilitation ..... 393

*Ritwika Ghosh, Maulana Abul Kalam Azad University of Technology, West Bengal, India*

*Ahona Ghosh, Maulana Abul Kalam Azad University of Technology, West Bengal, India*

*Sriparna Saha, Maulana Abul Kalam Azad University of Technology, West Bengal, India*

## **Chapter 23**

Sustainable Developments of Human-Machine Interaction for Knowledge Discovery and Management: Healthcare and Agricultural Domains ..... 415

*P. V. Pramila, Department of Computer Science and Engineering, Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences, India*

*G. Dineshnath, Department of Computer Science and Engineering, Koneru Lakshmaiah Education Foundation, India*

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*M. Sudhakar, Department of Mechanical Engineering, Sri Sairam Engineering College, India*

## **Chapter 24**

Sustainable Green Energy Generation From Waste Water: IoT and ML Integration .....	440
<i>Mahendra Kumar B, Department of MCA, Dayananda Sagar College of Engineering, India</i>	
<i>Keshav Kumar K, Department of Humanities and Mathematics, G. Narayanamma Institute of Technology and Science for Women, India</i>	
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<i>S. Sundaram, Department of Mechanical Engineering, Muthayammal Engineering College, India</i>	

## **Chapter 25**

Sustainable Intelligence: Navigating the Rise of Green Technologies for a Greener Environment.....	464
<i>Jyotikanta Panda, GIET University, India</i>	
<i>Saumendra Das, GIET University, India</i>	
<i>Moushami Panda, GIET University, India</i>	
<i>Dulu Pattnaik, Government Engineering College, Bhawanipatna, India</i>	

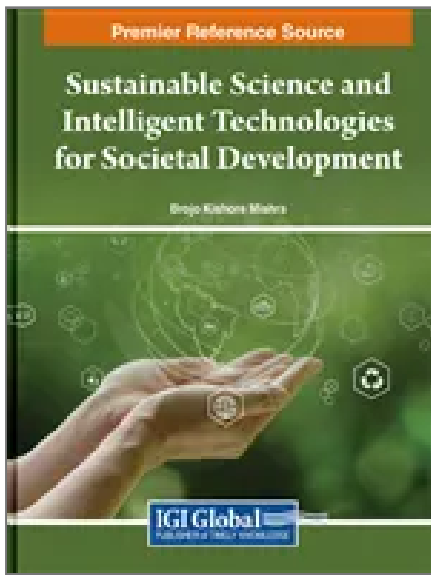
## **Chapter 26**

Synergizing Artificial Intelligence, 5G, and Cloud Computing for Efficient Energy Conversion Using Agricultural Waste.....	475
<i>Anurag Vijay Agrawal, Department of Electronics and Communication Engineering, J.P. Institute of Engineering and Technology, India</i>	
<i>G. Shashibhushan, Department of Electronics and Communication Engineering, Sir M. Visvesvaraya Institute of Technology, India</i>	
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<i>S. N. Padhi, Department of Mechanical Engineering, Lakshmaiah Education Foundation, India</i>	
<i>D. Sugumar, Department of Electronics and Communication Engineering, Karunya Institute of Technology and Sciences (Deemed), India</i>	
<i>Sampath Boopathi, Department of Mechanical Engineering, Muthayammal Engineering College, India</i>	

<b>Compilation of References .....</b>	<b>498</b>
--	------------

<b>About the Contributors .....</b>	<b>559</b>
-------------------------------------	------------

<b>Index.....</b>	<b>568</b>
-------------------	------------



# Applied Neural Networks in Mechatronics for Intelligent Engineering Applications: Enhancing Mechatronic Systems With Applied Neural Networks – Augmentation in Intelligent Engineering

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# Abstract

This chapter explores the application of neural networks in mechatronics for intelligent engineering applications. Mechatronics is an interdisciplinary field that involves the integration of mechanical, electrical, and computer engineering to develop advanced systems. Artificial intelligence (AI), and in particular, neural networks, have proven to be effective tools in enhancing the intelligence of mechatronic systems. The chapter provides an overview of mechatronics, AI, and neural networks, followed by a literature review discussing their applications and advantages. The results show that using neural networks in mechatronics improves the intelligence of mechatronic systems, resulting in better performance. The chapter indicates that neural networks have the potential to dramatically improve the intelligence of mechatronic systems and recommends future research directions. This study lays the groundwork for future research into the use of neural networks in mechatronics for intelligent engineering applications.

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## Chapter Preview

[Top](#)

# Review Of Literature

The use of neural networks in mechatronics for intelligent engineering applications has received a lot of attention in recent years. Neural networks are a type of artificial intelligence that may acquire knowledge from data and determine actions based on it, making them an important tool for improving the intelligence of mechatronic systems. Neural networks have been used in various mechatronic applications, including robotics, control systems, and sensors. For example, researchers have used neural networks to develop robotic systems that can learn from their environment and adapt their behaviour to changing conditions. Neural networks have also been used to develop intelligent control systems that can optimize performance and reduce energy consumption.

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