

## **AI and Smart Technologies for Early Detection and Treatment of Human Diseases**

| <b>Chapter</b> | <b>Title</b>                                                                     | <b>Page No.</b> |
|----------------|----------------------------------------------------------------------------------|-----------------|
| 1              | <b>1.Introduction to AI, Cloud, IoT, and Nanotechnology in Modern Healthcare</b> | 14              |
| 2              | <b>Role of Artificial Intelligence in Early Prediction of Human Diseases</b>     | 49              |
| 3              | <b>Machine Learning Techniques for Multi-Disease Risk Assessment</b>             | 84              |
| 4              | <b>Cloud Computing Architectures for Smart Healthcare Systems</b>                | 120             |
| 5              | <b>IoT-Based Wearable Devices for Continuous Health Monitoring</b>               | 159             |
| 6              | <b>AI-Driven Decision Support Systems for Clinical Diagnosis</b>                 | 197             |
| 7              | <b>Early Detection of Cancer Using Machine Learning Models</b>                   | 235             |
| 8              | <b>Deep Learning Approaches for Breast Cancer Classification</b>                 | 273             |
| 9              | <b>Lung Cancer Prediction and Imaging Analytics Using AI</b>                     | 313             |
| 10             | <b>Brain Tumor Detection and Classification with Deep Neural Networks</b>        | 350             |
| 11             | <b>Skin Cancer Recognition Using Computer Vision and Deep Learning</b>           | 386             |
| 12             | <b>Explainable AI for Trustworthy Disease Classification Systems</b>             | 412             |
| 13             | <b>Multi-Cancer Early Screening Frameworks Using AI and Genomic Data</b>         | 460             |
| 14             | <b>IoT Sensors for Biomarker Monitoring in Cancer Patients</b>                   | 494             |
| 15             | <b>Targeted Nanoparticles for Precision Drug Delivery in Oncology</b>            | 522             |
| 16             | <b>AI-Assisted Design of Functionalized Nanoparticles for Cancer Therapy</b>     | 562             |

|    |                                                                                                |     |
|----|------------------------------------------------------------------------------------------------|-----|
| 17 | <b>Smart Nano-Biosensors for Early Disease Detection</b>                                       | 599 |
| 18 | <b>Cloud-Based Management of Cancer Imaging and Patient Data</b>                               | 636 |
| 19 | <b>Cybersecurity, Privacy, and Ethics in Intelligent Healthcare Platforms</b>                  | 674 |
| 20 | <b>Future Trends and Clinical Case Studies in Smart Disease Diagnosis and Targeted Therapy</b> | 709 |