

Contents

Hina Bansal, Reet Kaur Kohli, Kunal Saluja, Ankur Chaurasia
Recent advancements in biomedical research in the era of AI and ML — 1

Shreya Jain, Jyoti Prajapati, Nitin Sharma, Ankur Saxena, Anupama Avasthi,
Ranjana Jadaun
**Prediction of cardiovascular diseases using random forest and naive Bayes
algorithm — 21**

Kajal Prajapati, Ravindra Kumar
Big data analytics for personalized medicine — 39

Vaishali Mehta, Deepshikha Pande Katare, Potshangbam Angamba Meetei,
Ruchi Jakhmola Mani
Intellection of biological life in current era — 53

Abhishek Sengupta, Payal Gupta, Payal Priyadarshini, Sudeepti Kulshrestha,
Ankur Chaurasia, Priyanka Narad
**Integrating artificial intelligence techniques for analysis of next-generation
sequencing data — 67**

Mukund Sharma, Deepshikha Pande Katare, Ritu Chauhan, Shikha Rani,
Ruchi Jakhmola Mani
Artificial intelligence: the future of neuroscience — 97

Shruti Rathore, Vanshika Jain, Sampath Chinnam
**Role of big data and artificial intelligence for COVID-19 and cancer diagnosis
and treatments — 117**

Bhavika Chawla, Kumar Dron Shrivastav, Neha Taneja,
Jashoda Kishanlal Suthar, Mehak Segan, Vinita Kumar Jaggi, Harpreet Singh,
Priya Ranjan, Rajiv Janardhanan
**Integrating screening modalities for early and precision-oriented
evidence-based screening of cervical cancer – a holistic approach — 145**

Vidya Moni, Shantosh Kumarasurrier, Asim Bikas Das
**Role of artificial intelligence and machine learning in diagnosis and
treatment of women centric cancer — 155**

Dhaval Kumar Srivastava, Aditya Vikram Singh, Kaamya Sharma,
Ankur Saxena, Mohit Saxena

The role of artificial intelligence, machine learning and deep learning in the diagnosis, prognosis and treatment of cancers primarily associated with women — 167

Anushree A Avasthi, Bhawna Rathi, Anupama Avasthi

Oropharyngeal cancer prognosis based on clinicopathologic and quantitative imaging biomarkers with multiparametric model and machine learning methods — 197

Parinita Sharma, Ankur Saxena, Anveshita De, Smitha Mony Sreedharan

Artificial intelligence and machine learning in healthcare: an ethical perspective — 213

Nada Hussein

Artificial intelligence in dentistry: current issues and perspectives — 229

Benoît Duchemann

AI for pattern recognition and objectivity: the case of melanoma detection — 249

Nicolas Brault, Etienne Aucouturier

Ethical horizons of biobank-based artificial intelligence in biomedical research — 265

Index — 289