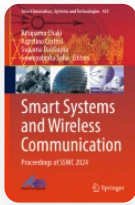


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Breast Cancer Classification Using Machine Learning: A Comprehensive Review and Analysis

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**Smart Systems and Wireless
Communication**
(SSWC 2024)

[Priyanka Roy](#) , [Joyjit Patra](#), [Srijita Bhattacharyya](#), [Soumi Badyakar](#) & [Prasenjit Maji](#)

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Abstract

Breast cancer is one of the most prevalent and potentially life-threatening diseases affecting women worldwide. Early and accurate diagnosis is crucial for improving patient outcomes and survival rates. In recent years, machine learning techniques have shown promising results in aiding medical professionals in the classification and diagnosis of breast cancer. This paper presents a comprehensive review and analysis of various machine learning approaches employed for breast cancer classification. The study covers data preprocessing, feature extraction, model selection, performance evaluation, and emerging trends in the field. Through an extensive survey

of existing literature, this paper aims to provide a holistic understanding of the advancements, challenges, and future directions in utilizing machine learning for breast cancer classification.

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Author information

Authors and Affiliations

Department of Information Technology, Dr. B.C. Roy Engineering College Durgapur, Durgapur, India

Priyanka Roy, Srijita Bhattacharyya & Soumi Badyakar

Department of Computer Science and Engineering, Dr. B.C. Roy Engineering College Durgapur, Durgapur, India

Joyjit Patra

Department of Computer Science and Design, Dr. B.C. Roy Engineering College Durgapur, Durgapur, India

Prasenjit Maji

Corresponding author

Correspondence to [Priyanka Roy](#).

Editor information

Editors and Affiliations

School of Information Technology, University of Calcutta, Kolkata, West Bengal, India

Rituparna Chaki

DAIS, Ca' Foscari University, Venezia, Italy

Agostino Cortesi

Department of Information Technology, JIS College of Engineering, West Bengal, West Bengal, India

Suparna DasGupta

Department of Information Technology, JIS College of Engineering, Kalyani, West Bengal, India

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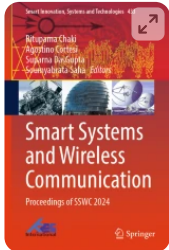


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The volume is a collection of high-quality research papers presented at International Conference on Smart Systems and Wireless Communication, SSWC 2024, organized Department of Information Technology, JIS College of Engineering, Kalyani, West Bengal, India, during 29–30 November 2024. This book focuses smart cities, smart farming, smart healthcare, wireless networks communication, internet of things, cyber physical systems, human computer interaction, big data and data analytics, high performance computing, requirements engineering, analysis and verification

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Editors and Affiliations

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Rituparna Chaki

DAIS, Ca' Foscari University, Venezia, Italy

Agostino Cortesi

Department of Information Technology, JIS College of Engineering, West Bengal, India

Suparna DasGupta

Department of Information Technology, JIS College of Engineering, Kalyani, India

Soumyabrata Saha

About the editors

Rituparna Chaki is a full professor in the A K Choudhury School of Information Technology, University of Calcutta, India, since June 2015. She joined academia as a faculty member in the West Bengal University of Technology in 2005. Before that, she has served under Government of India in maintaining industrial production database. Besides, she has served as a visiting professor in the AGH University of Science & Technology, Cracow, Poland, since 2013 for consecutive years. Rituparna did her Ph.D. from Jadavpur University in 2002. She has been associated in organizing many conferences in India and abroad as a program chair, OC chair or as member of Technical Program Committee. She has published more than 60 research papers in reputed journals and peer-reviewed conference proceedings. Her research interest is primarily in ad hoc networking and its security. She is a professional member of IEEE and ACM.

Agostino Cortesi, Ph.D., is a full Professor of Computer Science at Ca' Foscari University, Venice, Italy. He has extensive experience in the area of static analysis and software verification techniques. His main research interests concern programming languages theory, software engineering, and static analysis techniques, with particular emphasis on security applications. He serves as co-editor in chief of the book series "Services and Business Process Reengineering" published by Springer Nature. He has been the adviser of several doctoral and postdoctoral students from Italy and abroad (e.g., India, Cuba, USA) and has published more than 200 papers in high-level international journals and proceedings of international conferences. According to Scopus, his h-index is 23, with more than 2.000 citations. Currently, he holds the chairs of "Software Engineering," "Program Analysis and Verification," "Computer Networks and Information Systems" and "Data Programming."

Suparna Dasgupta is Associate Professor in the Department of Information Technology, JIS College of Engineering, India, since August 2005. She did her Ph.D. from University of Calcutta in 2022. Suparna has recognized as REDHAT Certified System Administrator and AWS Academy Educator. She has been associated in organizing many conferences in India as member of Technical Program Committee. She has published more than 35 research papers in Journals, Book Chapters, and peer-reviewed Conference Proceedings. She has published more than 20 number of patents. Her research interest is primarily in vehicular ad hoc networking and its security. She is a professional member of ACM, CSI, ISTE.

Soumyabrata Saha works as Associate Professor in the Department of Information Technology, JIS College of Engineering, India, since August 2005. He completed his Ph.D. from University of Calcutta in 2023. He has been associated in organizing many conferences in India as member of Program Committee and Technical Program Committee. He has published more than 30 research papers in Journals, Book Chapters, and peer-reviewed Conference Proceedings. He has published more than 25 number of patents. His research interest is primarily in Wireless Sensor Networks, Internet of Things. He is a Life member of CSI, ISTE.

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