



BIG DATA ANALYTICS AND INTELLIGENCE

A PERSPECTIVE FOR HEALTH CARE

EDITED BY POONAM TANWAR, VISHAL JAIN, CHUAN-MING LIU, VISHAL GOYAL

Big Data Analytics and Intelligence

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Big Data Analytics and Intelligence: A Perspective For Health Care

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Preface

The main focus of this book is to provide the scientific & engineering research of technologies and applications in field of Big Data and to cover the experimental work of chapters concerning the progress towards the Big data technologies, data classification, data analysis and mining, information retrieval, That is emphasizing the problematic issue of knowledge engineering & Management of such systems. The book would be organized as per Background, History, techniques used and various applications of Big data Analytics. Each part will consist of a set of chapters focusing the respective topic outline in order to provide readers an in-depth understanding of concept and technology related to that area. This book includes new developments, Future Perspective and Case studies in the field of Big Data Analytics as well as the overview/ Background knowledge of the Big Data Analytics that the book focuses on

This book can be useful for Under Graduate and Post Graduate students who have taken Big Data Analytics in their Academic Curriculum. This book will be useful to students to develop and deploy their skills to achieve a thorough knowledge in Analytics and in-depth education experience to focus as it pertains to their unique interests. Acknowledging the huge demands of this, Professionals in the industry today, this book has been designed to create trained Computer Science graduates to fulfil the requirements of the industry.

This book comprises of sixteen chapters. Chapter 1 is a general introduction to the applications of Bigdata Analytics in Health care and Challenges. The 2nd Chapter focused on Bigdata Data Analytics Techniques, Tools, and Technologies in Health sector in detail.. Chapter 3 covers the classification Algorithms used in the Healthcare Industry & Training also discussed various Technologies in E-health. In Chapter 4 Morbidity and Hospitalization in India with respect to Bigdata Analytics , Importance of data in Modern Society: Data as Fuel of Modern Economy , Treatment protocol perceptive analytics. & Advance awareness campaigns based on predictive analysis have been discussed. Chapter 5 explained the Predictive Big Data analytics in Healthcare using clinical data, Lab test, Medical and Prescription claims, also presented Challenges of Predictive Big Data Analytics in Healthcare. Chapter 6 is a Big data analytics for Smart Nursery with Health Monitoring system Through Internet of Things. Proposed an IoT and Machine Learning based smart nursery that helps in healthy growing and monitoring of the seed. The system can learn from the internal sensor readings and manage the environment for the best growth of the plant. Chapter 7 is used to discussed the progress of Bigdata Analytics in Health Care., Providing

patient-centric services and how the treatment methods can be improved using Big data analytics & Human genomics/ Genome-Wide Association Studies (GWAS) and Expression Quantitative Trait Loci (EQTLs) have also been discussed. Chapter 8 is how Intrusion Detection and security will be helpful in Healthcare. Chapter 9 is Business Intelligence in the healthcare domain for the growth of any organization. Chapter 10 is case study of facial palsy . Facial palsy is a term used for disruption of facial muscles and could result in temporary or permanent damage of the facial nerve. This chapter explained how big data analytics can be helpful for preventing Facial Palsy. Chapter 11 discussed how Support vector Machine and Naïve Bayes supervised classifiers can be used for selection of best optimized features and prediction of Breast Cancer accuracy & The performance evaluation of the proposed model is estimated by using classification accuracy, confusion matrix, mean, standard deviation, variance and Root mean squared error. The objective of chapter 12 is to present the the Tension-type headaches (TTH) which were associated with diabetes using SPSS, Pearson correlation and ANOVA tests. The purpose of this chapter is to correlate diabetes analysis from TTH and other diseases using the latest technologies to analyze the Internet of Things and Big Data and Stress Correlation (TTH) on human health. In Chapter 13 new Machine Learning approach for meal classification and assessment of nutrients values based on weather conditions along with new and innovative ideas re discussed, Chapter 14 is advancement in the field of Telemedicine and how often the general public are using the services that are provide by the Tel-ehealth and Telemedicine market . Also discussed the models that are being used in today's world, and how these models as implemented and how Telemedicine services are implemented. Chapter 15 illustrate the role of predictive Modeling in health care , as Increasing mobile connectivity and the popularity of wearable devices and advancements in health care IOT devices can help physicians understand the physiological variability in individuals and populations to diagnose and better plan preventive measures.

I hope this book is widely read.