

Energy is essential to life and all living organisms. The sun, directly or indirectly, is the source of all the energy available on Earth. Our energy choices and decisions impact Earth's natural systems in ways we may not be aware of, so it is essential that we choose our energy sources carefully. Electricity from renewable energy sources produces between 90-99% less greenhouse gases (GHGs) compared with coal-fired plants and causes 70-90% less pollution. Focusing on renewable energy sources other than fossil fuels and coals might help in avoiding environmental impacts, specifically from air pollution. Eliminating fuel costs lowers the cost of the electricity produced. It also means the price of electricity isn't susceptible to changes in the price of fuels, like it is with natural gas or coal. This may lead to more stable energy prices over the long term. Finally Renewable technologies are considered as clean sources of energy and optimal use of these resources decreases environmental impacts, produces minimum secondary waste and are sustainable based on the current and future economic and social needs.



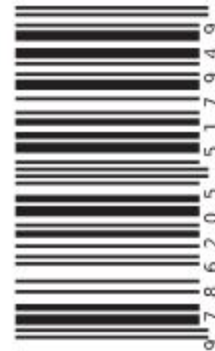
FOR AUTHOR USE

BHUKYA LAXMAN
NAMBURI NIREEKSHANA
Y MASTANAMMA

ENERGY SCIENCE AND ENGINEERING

LAXMAN, NIREEKSHANA, MASTANAMMA

1. Dr. Bhukya Laxman, Associate Professor, Methodist College of Engineering & Technology, Hyderabad.
2. Namburi Nireekshana, Assistant Professor, Methodist College of Engineering & Technology, Hyderabad.
3. Mrs. Y. Mastanamma, Associate Professor & HOD, Methodist College of Engineering & Technology, Hyderabad.



LAP
LAMBERT
Academic Publishing

**BHUKYA LAXMAN
NAMBURI NIREEKSHANA
Y MASTANAMMA**

ENERGY SCIENCE AND ENGINEERING

FOR AUTHOR USE ONLY

In recent years, power quality disturbances become most issue which makes many researchers interested to find the best solutions to solve it. Power quality in the power system is the important issue for industrial, commercial and residential applications today. The voltage problem is mainly considered from under-voltage (voltage sag) condition over current caused by short circuit or fault somewhere in the system. In customer opinion a power problem is deviation in voltage, current and frequency that results in failure. Power electronic converters have been developed several tenths of years ago for many types of applications. One of its major applications is for control of electrical machines, mainly used in the beginning for industrial applications, and now propagated in many household appliances. The beginning of the renewable energy story had a moderate influence on the power electronic converters market. Indeed, in the old small wind turbines, the mechanical power was converted to electrical power thanks to induction machines directly connected to the grid. Very quickly, the power of the wind turbine increased and more rules were implemented.

PE Applications to Power systems (PEAPS)



NAMBURI NIREEKSHANA graduated from ACTS, JNTU Hyderabad, received Master of Technology from LIET JNTU Hyderabad, Research Scholar in Annamalai University. He is working on load frequency control area with Optimization Techniques.



Namburi, R. NARAYANA

NIREEKSHANA Namburi
RAMACHANDRAN R
G V NARAYANA

Power Electronics Applications to Power Systems

LAP LAMBERT
Academic Publishing

Water Science and Technology Library

Ramakar Jha · V. P. Singh ·
Vivekanand Singh · L. B. Roy ·
Roshni Thendiyath *Editors*

Hydrological Modeling

Hydraulics, Water Resources and Coastal
Engineering

 Springer

Water Science and Technology Library

Volume 109

Editor-in-Chief

V. P. Singh, Department of Biological and Agricultural Engineering & Zachry
Department of Civil and Environmental Engineering, Texas A&M University,
College Station, TX, USA

Editorial Board

R. Berndtsson, Lund University, Lund, Sweden

L. N. Rodrigues, Brasilia, Brazil

Arup Kumar Sarma, Department of Civil Engineering, Indian Institute of
Technology Guwahati, Guwahati, Assam, India

M. M. Sherif, Civil and Environmental Engineering Department, UAE University,
Al-Ain, United Arab Emirates

B. Sivakumar, School of Civil and Environmental Engineering, The University of
New South Wales, Sydney, NSW, Australia

Q. Zhang, Faculty of Geographical Science, Beijing Normal University, Beijing,
China

Editors

Ramakar Jha
Department of Civil Engineering
National Institute of Technology
Patna, India

Vivekanand Singh
Department of Civil Engineering
National Institute of Technology Patna
Patna, India

Roshni Thendiyath
Department of Civil Engineering
National Institute of Technology Patna
Patna, India

V. P. Singh
Department of Biological and Agricultural
Engineering
Texas A&M University
College Station, TX, USA

L. B. Roy
Department of Civil Engineering
National Institute of Technology Patna
Patna, India

ISSN 0921-092X ISSN 1872-4663 (electronic)
Water Science and Technology Library
ISBN 978-3-030-81357-4 ISBN 978-3-030-81358-1 (eBook)
<https://doi.org/10.1007/978-3-030-81358-1>

© The Editor(s) (if applicable) and The Author(s), under exclusive license to Springer Nature Switzerland AG 2022

This work is subject to copyright. All rights are solely and exclusively licensed by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

- 22 **Discrepancy in Infiltration Equation Parameters While Using Pondered and Tension Boundary Pressure Head Conditions** 287
Aparimita Priyadarshini Naik and Sreeja Pekkat
- 23 **Using CartoDEM Data for Dam Break Flood Hazard Mapping in a Hilly Terrain** 299
Pankaj Mani, Rakesh Kumar, and J. P. Patra
- 24 **Hydrologic and Hydraulic Modelling of a Bridge** 317
Jagadish Prasad Patra, Rakesh Kumar, and Pankaj Mani
- 25 **New Approach to Evolve Soil Water Retention Curve in Lower Kosi Basin, India** 327
Ray Singh Meena Meena and Ramakar Jha
- 26 **Variability of Rainfall, Temperature, and Potential Evapotranspiration at Annual Time Scale Over Tapi to Tadri River Basin, India** 349
Prem Mahyavanshi, V. D. Loliyana, and Priyank J. Sharma
- 27 **Design of Water Distribution Network for Educational Institute for Revised Demand** 365
Nishant Sourabh, Mustafa Batliwala, and P. V. Timbadiya
- 28 **Application of Numerical Modelling for Geomorphological Evolution and River Bank Shifting Part of Damodar River** 375
C. Prakasam and R. Aravinth
- 29 **Study on Impact of Urbanization by SWAT Model in Iril River, Northeast India** 385
Pradyumna Kumar Behera and Thiyam Tampasana Devi
- 30 **Comparison of Soil Infiltration Models Under Varying Land Cover Conditions in a Micro Watershed of Western Himalayan Region** 395
Tabasum Rasool, Sajad Ahmad, Abdul Qayoom Dar, and Mushtaq A. Wani
- 31 **Rainfall-Runoff Studies of Brahmani River Basin Using ANN** 411
Swagatika Biswal, Bandita Naik, and K. K. Khatua
- 32 **Estimation and Management of Irrigation Water Using WEAP Model in Tandula Reservoir Command Area** 423
Yashvant Kumar Tikariha and Ishtiyah Ahmad
- 33 **Integrated Hydrological and Hydraulic Model for Prediction of Inflows into Hathnur Reservoir** 437
Vishal Kachhwaha and P. L. Patel

Chapter 31 Rainfall–Runoff Studies of Brahmani River Basin Using ANN

Swagatika Biswal, Bandita Naik, and K. K. Khatua

Abstract Rainfall–runoff is a very complicated process due to its nonlinear and multidimensional dynamics, hence it is difficult to model. There are various methods for time series based on the model of rainfall and runoff. In the present study, feed-forward back-propagation and auto-regressive integrated moving average models are applied to predict monthly runoff in the Brahmani river of the three stations: Jaraikela, Jenapur, and Tiliga. ANN with different transfer functions like TANSIG and PURELIN is used to find runoff prediction in these areas. Different statistical error analysis is done, to know better transfer function. From the observation, it was concluded that the transfer function gives better results than PURELIN. The predicted runoff found by TANSIG transfer function was again compared with ARIMA model. From the statistical error analysis, it was observed that ANN gave better results than the ARIMA method.

31.1 Introduction

Many natural resources are available on the earth. Water is one of the most important natural resources. Without water, life cannot be imagined on the earth's surface. 71% of the earth's surface is water-covered, and the oceans hold about 96.5% of all earth's water. Water also exists in the air as water vapors, in rivers and lakes, in icecaps and glaciers, in the ground as soil moisture, and in aquifers (Ref. water.usgs.gov). But the problem is that water is not available at the proper place at the proper time. Water is not constant. It always moves on from one place to another. Water in the different catchment areas always changes from one state to another under the effect of solar radiation. The water surface is converted to vapor by evaporation due to solar heat

S. Biswal (✉)
Department of Civil Engineering, CAPGS, BPUT, Rourkela, India

B. Naik
Faculty in Department of Civil Engineering, CAPGS, BPUT, Rourkela, India

K. K. Khatua
Department of Civil Engineering, NIT, Rourkela, Rourkela, India

Water Science and Technology Library

Ramakar Jha · V. P. Singh ·
Vivekanand Singh · L. B. Roy ·
Roshni Thendiyath *Editors*

River Hydraulics

Hydraulics, Water Resources and
Coastal Engineering Vol. 2

 Springer

Water Science and Technology Library

Volume 110

Editor-in-Chief

V. P. Singh, Department of Biological and Agricultural Engineering & Zachry
Department of Civil and Environmental Engineering, Texas A&M University,
College Station, TX, USA

Editorial Board

R. Berndtsson, Lund University, Lund, Sweden

L. N. Rodrigues, Brasília, Brazil

Arup Kumar Sarma, Department of Civil Engineering, Indian Institute of
Technology Guwahati, Guwahati, Assam, India

M. M. Sherif, Civil and Environmental Engineering Department, UAE University,
Al-Ain, United Arab Emirates

B. Sivakumar, School of Civil and Environmental Engineering, The University of
New South Wales, Sydney, NSW, Australia

Q. Zhang, Faculty of Geographical Science, Beijing Normal University, Beijing,
China

Editors

Ramakar Jha
Department of Civil Engineering
National Institute of Technology
Patna, India

Vivekanand Singh
Department of Civil Engineering
National Institute of Technology Patna
Patna, India

Roshni Thendiyath
Department of Civil Engineering
National Institute of Technology Patna
Patna, India

V. P. Singh
Biological and Agricultural Engineering
Texas A&M University
College Station, TX, USA

L. B. Roy
Department of Civil Engineering
National Institute of Technology Patna
Patna, India

ISSN 0921-092X ISSN 1872-4663 (electronic)
Water Science and Technology Library
ISBN 978-3-030-81767-1 ISBN 978-3-030-81768-8 (eBook)
<https://doi.org/10.1007/978-3-030-81768-8>

© The Editor(s) (if applicable) and The Author(s), under exclusive license to Springer Nature Switzerland AG 2022

This work is subject to copyright. All rights are solely and exclusively licensed by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

34	Loss Coefficient of Expansion in Diverging Channel	405
	M. Sahu, S. T. Biswal, and B. Naik	
35	Numerical Modelling of Tidal Hydrodynamics Along River Tapi, Gujarat	419
	R. Balaji, J. SatheeshKumar, R. Cornelius, R. Naveen, G. Prasantha, and T. Prince	
36	Study on the Variation of Distribution of Velocity in Accordance with Differential Roughness in a Compound Open Channel	429
	Nirjharini Sahoo, Kishanjit Kumar Khatua, and Ramakar Jha	
37	Flow Distribution in Diverging Compound Channel Using LES Models	443
	Deepika P. Palai and K. K. Khatua	
38	Using CARTODEM Data for Dam Break Flood Hazard Mapping in a Hilly Terrain	455
	Pankaj Mani, Rakesh Kumar, and J. P. Patra	



Toggle navigation

- banditanaik1982@gmail.com [LOGOUT](#)
- 
- 
- 
- [Home](#)
- [My data](#)
- [Projects](#)
- [Refer your Friends](#)
- [Royalty Payments](#)
- [Marketing Material](#)
- [Group Deals](#)

My Projects

- ✓ Title
- ✓ Subtitle
- ✓ PDF Upload
- ✓ Bio/Vita
- ✓ Author image
- ✓ Accepted

Project ID: #229335

Introduction to Climate Change

ISBN: 978-620-5-49149-2

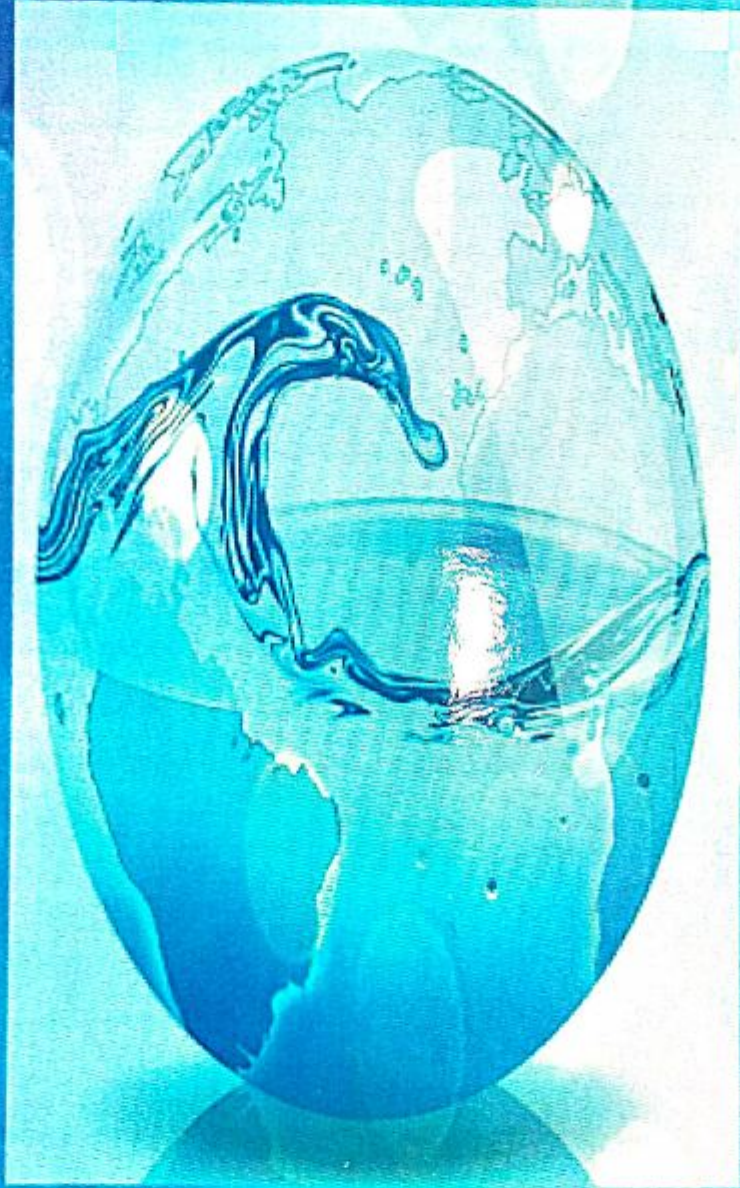
Editor: rlanguelale

Contributor : Bandita Naik

Status: Published

[Download eBook](#)

WATER RESOURCES



**DR. BANDITA NAIK
DR. SUDHAKAR SINGHA
DR. SOUMYA S. SINGHA**

NOTION PRESS

India. Singapore. Malaysia.

Published by Notion Press 2022

Copyright © < **Dr. Bandita Naik** > 2022

All Rights Reserved.

ISBN 9-7988-873-39-37

This book has been published with all reasonable efforts taken to make the material error-free after the consent of the author. No part of this book shall be used, reproduced in any manner whatsoever without written permission from the author, except in the case of brief quotations embodied in critical articles and reviews.

The Author of this book is solely responsible and liable for its content including but not limited to the views, representations, descriptions, statements, information, opinions and references ["Content"]. The Content of this book shall not constitute or be construed or deemed to reflect the opinion or expression of the Publisher or Editor. Neither the Publisher nor Editor endorse or approve the Content of this book or guarantee the reliability, accuracy or completeness of the Content published herein and do not make any representations or warranties of any kind, express or implied, including but not limited to the implied warranties of merchantability, fitness for a particular purpose. The Publisher and Editor shall not be liable whatsoever for any errors, omissions, whether such errors or omissions result from negligence, accident, or any other cause or claims for loss or damages of any kind, including without limitation, indirect or consequential loss or damage arising out of use, inability to use, or about the reliability, accuracy or sufficiency of the information contained in this book.

Author's Profile



Dr. Soumya S. Singha is presently working as Associate Professor and Head of Department of Civil Engineering at KG Reddy College of Engineering & Technology, Hyderabad, Telangana. She has graduated in 2006 with "Honours" and was a "Gold Medalist" in M.Tech with a specialization in Water Resources Development and Irrigation Engineering in Department of Civil Engineering from NIT, Raipur in the year 2013. She has completed PhD in Water Resources from IIT (ISM) Dhanbad in 2020. She has vast experience in teaching with more than ten years in engineering colleges. She has authored more than fifteen research papers in various National and International SCISCI/SCOPUS indexed peer reviewed journals. She is a reviewer of different renowned international peer reviewed journals. She has four Indian patents publication. She is the author of one text book of Civil Engineering in field of water resources.



Dr. Sudhakar Singha is presently working as Assistant Professor in Civil Engineering Department of GITAM (Deemed to be University), Hyderabad, Telangana. He obtained B.Tech in Civil Engineering from BPUT, Rourkela in 2006, M.Tech (Water Resources Development and Irrigation Engineering) from NIT, Raipur and Ph.D in Water Resources Engineering from IIT (ISM), Dhanbad in year 2013 and 2021, respectively. He was recipient of "Gold Medal Award" in his M.Tech from NIT, Raipur in 2014. He has more than ten years of industry, teaching and research experiences. He is associated with number of professional organizations. He is the corporate member of The Institution of Engineers (India) and Life member of International Association of Engineers. He has published more than twelve National and International Journals in the area of Water Resources and Environmental Engineering. He has four Indian patents publications. He is the author of one Civil Engineering textbook in the field of water resources.

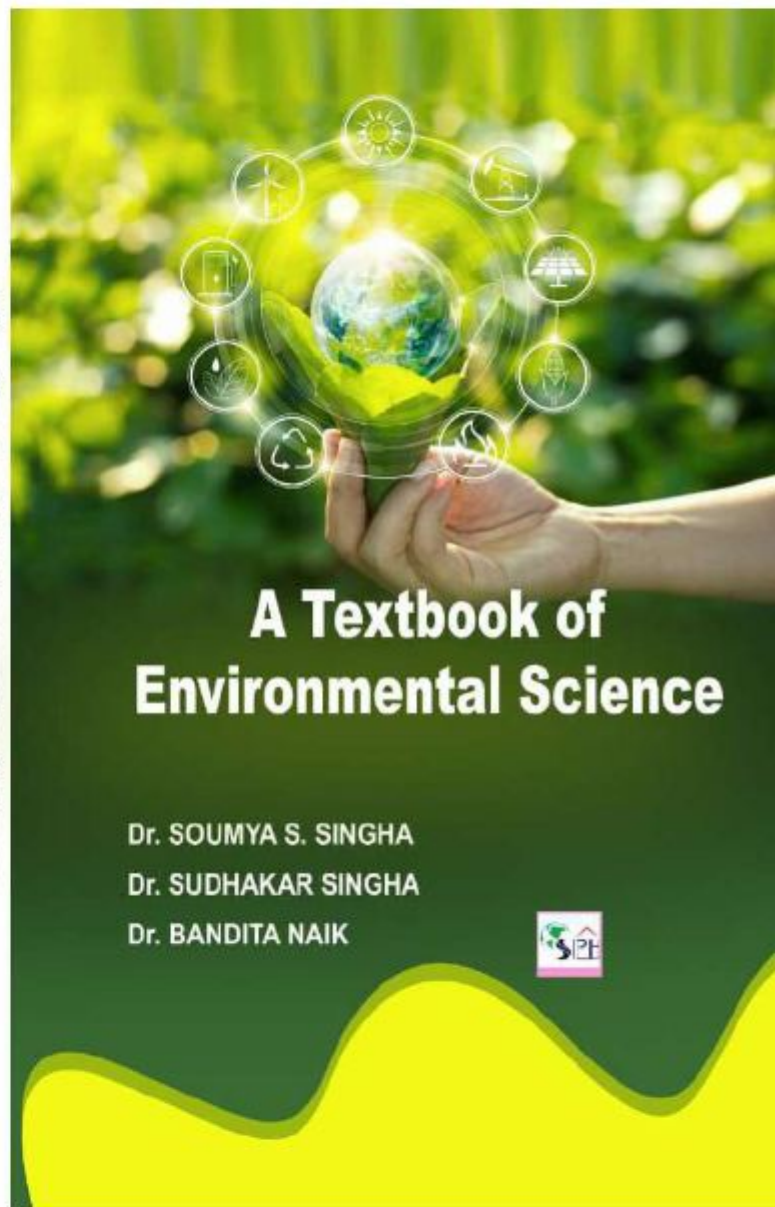


Dr. Bandita Naik is presently working as Associate Professor in Civil Engineering Department of Methodist College of Engineering and Technology, Hyderabad, Telangana. She obtained B.Tech in Civil Engineering from Biju Patanaik University of Technology, Rourkela in 2005, PhD in Water Resources Engineering from National Institute of Technology, Rourkela in 2017. She has authored more than twenty research papers in various National and International peer reviewed journals. She is the author of one text book of Civil Engineering in field of water resources.

 Scientific International
Publishing House

ISBN
978-93-5625-397-1

A Textbook of Environmental Science



A Textbook of Environmental Science

Dr. SOUMYA S. SINGHA

Dr. SUDHAKAR SINGHA

Dr. BANDITA NAIK



A Novel Web Application of Product Recommender System based on Sentiment Analysis

Dr Lavanya Pamulaparty¹, Mohammed Adnan² and Abdul Moid Khan Mohammed³
¹⁻³Methodist College of Engineering and Technology/CSE, Hyderabad, India
Email: lavanya.post@gmail.com, mohd.adnan2317@gmail.com, skhan852000@gmail.com

Abstract—In present scenario the data overload is a serious problem. For mere humans, it is impossible to analyse data manually without error or bias. One prime example of this regarding the review of products on e-commerce websites is that when a customer buys a certain product, he first looks for its ratings and then decides whether to buy that item or not. But only ratings are insufficient to determine the quality of the product. Reviews give us a much clearer and more in-depth understanding of the product. There is a need to summarize the feedback in a meaningful manner. Here's where sentiment analysis comes into play. Sentiment analysis can be automated, decisions can be made based on a significant amount of data rather than plain intuition that isn't always right. This proposed model combines sentiment analysis and a recommendation system to provide users with a comprehensive recommendation of e-commerce products. The aim of this analysis is to determine the orientation of a review then the recommender module provides users with product recommendations by analyzing large amounts of user-supplied data that is ratings and the sentiments of users and other factors like price and the number of sales to provide the user with the best recommendation. This is developed in the Python language.

Index Terms— Sentiment Analysis, Product Reviews, Vader Sentiment.

I. INTRODUCTION

In a world driven by data, the limitations, and possibilities of what we can carry out with the data are unfathomable. Whether it is data from a football game or a student's database, there are times when we can give meaningful execution to the data at hand and use it to solve a variety of issues and make our lives easier. Companies may have bought mountains of client feedback in today's data-overloaded atmosphere. However, it is still hard for normal people to manually analyse it without inaccuracy or bias. A perfect illustration of this relating to product reviews on e-commerce websites is the fact that when a buyer buys a product, he first checks its ratings before deciding whether to buy it. However, merely ratings are insufficient to adequately decide the product's quality. Reviews supply a far more precise and comprehensive picture of the product. Additionally, we may have our own prejudiced, predetermined notions on the issue at hand, which may affect how we understand the material we must analyse. We will also need to synthesise the input into a handful of actionable insights so that it is useful to the user. Users want insights to make an educated decision before buying a product. And they are inadequate. We must devise a more efficient strategy for gaining the most valuable ideas. Here, emotive analysis comes into play and aids the user in condensing evaluations and providing a concise insight. Sentiment analysis may be automated, and choices can be made based on a substantial quantity of data as

A Cyber Physical System Enabled Intelligent Farming System with Artificial Intelligence, Machine Learning and Cloud Computing

Diana Moses¹, T Praveen Kumar², Sharada Varalakshmi³ and Lavanya Pamulaparty⁴

^{1,2}Associate Professor, Methodist College of Engineering and Technology, Hyd, India

³Professor, Methodist College of Engineering and Technology, Hyd, India

⁴Professor and Head, Methodist College of Engineering and Technology, Hyd, India

Abstract—In this proposal, we study the advances of major core technologies and their applicability in creating an Intelligent farming System (IFS). As the world is trending into new technologies and implementations it is a necessary goal to trend up with agriculture also. Cyber Physical System (CPS) plays a very important role in Smart Farming. IOT sensors are capable of providing information about agriculture or Farming fields.

We have proposed a Cyber Physical System (CPS) enabled smart agriculture system using different technologies like AI&ML, Data Science and Cloud Computing. This CPS based Intelligent Farming system makes use of sensor networks that collects data from different sensors which as a result develop an Intelligent Village Farming. Several Utilities such as Pest management, Crop Stress management, Nutrient management, Water management and Deep Analysis can be done to suggest the farmer regarding the crop and climatic conditions. This smart agriculture or Smart Farming using Cyber Physical System (CPS) is powered by advances in sensor technology, wireless communication technologies and their applicability to farming Chatbot, Computer vision, technology enabling farming, it consists of sensor followed by technological techniques.

Index Terms— Intelligent Farming System, Crop disease detection, Automated irrigation, Yield prediction, Soil nutrition management.

I. INTRODUCTION

Irrigation was defined as “the application of water supplementary to that supplied directly by precipitation for the production of crops”. Although clearly defined, irrigation has not been clearly identified and separated from the wide-ranging area of water development activities, such as major and minor constructions for water harvesting, storing, conveyance and allocation; the drilling of tube-wells; and pumping. Most of the efforts and investments made in many countries for irrigation development result in water resources development and very few in on-farm water use improvement. The application of improved irrigation methods and techniques on small to large farms is expanding rapidly as a result of the increasing demand for higher irrigation efficiency, improved utilization of water and intensification, diversification & optimization. An irrigation system consists of canals and structures to convey regulate and deliver the water to the farmers. Two basic types of irrigation systems exist: open canal systems and pressurized piped systems.

A Cyber Physical System Enabled Intelligent Farming System with Artificial Intelligence, Machine Learning and Cloud Computing

Diana Moses¹, T Praveen Kumar², Sharada Varalakshmi³ and Lavanya Pamulaparty⁴

^{1,2}Associate Professor, Methodist College of Engineering and Technology, Hyd, India

³Professor, Methodist College of Engineering and Technology, Hyd, India

⁴Professor and Head, Methodist College of Engineering and Technology, Hyd, India

Abstract—In this proposal, we study the advances of major core technologies and their applicability in creating an Intelligent farming System (IFS). As the world is trending into new technologies and implementations it is a necessary goal to trend up with agriculture also. Cyber Physical System (CPS) plays a very important role in Smart Farming. IOT sensors are capable of providing information about agriculture or Farming fields.

We have proposed a Cyber Physical System (CPS) enabled smart agriculture system using different technologies like AI&ML, Data Science and Cloud Computing. This CPS based Intelligent Farming system makes use of sensor networks that collect data from different sensors which as a result develop an Intelligent Village Farming. Several Utilities such as Pest management, Crop Stress management, Nutrient management, Water management and Deep Analysis can be done to suggest the farmer regarding the crop and climatic conditions. This smart agriculture or Smart Farming using Cyber Physical System (CPS) is powered by advances in sensor technology, wireless communication technologies and their applicability to farming Chatbot, Computer vision, technology enabling farming, it consists of sensor followed by technological techniques.

Index Terms— Intelligent Farming System, Crop disease detection, Automated irrigation, Yield prediction, Soil nutrition management.

I. INTRODUCTION

Irrigation was defined as “the application of water supplementary to that supplied directly by precipitation for the production of crops”. Although clearly defined, irrigation has not been clearly identified and separated from the wide-ranging area of water development activities, such as major and minor constructions for water harvesting, storing, conveyance and allocation; the drilling of tube-wells; and pumping. Most of the efforts and investments made in many countries for irrigation development result in water resources development and very few in on-farm water use improvement. The application of improved irrigation methods and techniques on small to large farms is expanding rapidly as a result of the increasing demand for higher irrigation efficiency, improved utilization of water and intensification, diversification & optimization. An irrigation system consists of canals and structures to convey regulate and deliver the water to the farmers. Two basic types of irrigation systems exist: open canal systems and pressurized piped systems.

Grenze ID: 01.GIJET.9.1.663

© Grenze Scientific Society, 2023

A Deep Exposition of Data Science: Related Issues and its Applications

Syed Azahad¹, Venkatram Vennam² and M.V.D.S. Krishnamurthy³

¹⁻³Department of Computer Science Engineering, MCET, Hyderabad, Telangana

Email: azahadsyed@methdoist.edu.in, venkatram@methodist.edu.in, mkrishnamurthy@methodist.edu.in

Abstract—Data science is the study of extracting, collecting, gathering, representing, and safeguarding data for use in technical problems or for business goals. Although the term "Data Science" may seem to refer to databases and software engineering, numerous other quantitative and qualitative skills, including non-mathematical skills, are also necessary. Information dissection is the main goal of data science. This essay provides an explanation of what data science is, how it works, and some possible applications. This essay's second section contains several reviews of data science. The full data science method is illustrated in Section III of this essay. The data science-related research topics are all described in Section IV. The report concludes with several recommendations for data science-related future research. The writers of the current study will make an effort to look at the various problems, execution, and challenges in the field of data science.

Index Terms— Information, Data Science, investigation, management, cloud computing.

I. INTRODUCTION

Data science is the aggregation from a sizable amount of data that is combined or free, or, to put it another way, it is the field of data mining and data disclosure, which are generally terms for data scooping and perception research. The statement made by John Tukey on this subject and his conclusion are as follows: "The combination of a few data and a desperate need for an answer does not ensure that a sane answer can be derived from a given set of data".

According to Hal Varian, Google's economist, "the ability to absorb information—to have the capacity to interpret it, to analyze it, to remove an incentive from it, to visualize it, to present it—that will be an enormously vital competence in the next decades. Since information is essentially free and readily available right now. The ability to interpret that knowledge and draw a benefit from it is therefore a complementary rare factor. This science's field covers data sequencing, collection, and presentation, bits of information, and machines that make assumptions about how to handle various problems in various fields.

II. LITERARY REVIEW

According to Dr. S. Justus (2013), the entrance layers, processes, and capacity frameworks for big data are all improving gradually. In this significant circumstance, test architects and testing groups are not prohibited. They focus on some of the problems that test groups would shortly look into. For adaptive performance benchmarking and quality affirmation in the current machine-learning and examination outstanding tasks at hand, J. Nowling

Sentimental Analysis of Online Products using Ratings and Reviews

Mr. T. Praveen Kumar¹ and Mr. Sandeep Pamulaparty²

¹Methodist College of Engineering and Technology/Dept of CSE, Hyderabad, India

Email: pravinthumukunta@gmail.com

²CISCO/Santa Clara, California, USA

Email: pamulaparty@gmail.com

Abstract—Every second, we can observe a massive surge of data being generated. Data present abundantly needs to be processed to become meaningful information. One way of processing data and knowing the current trend is through product analysis. This concept can be used by organizations to identify their flaws and enhance their productivity. It is often performed on textual data to help businesses monitor brand and product sentiment in customer feedback, and understand customer needs. In this project, we throw light on the aspect that data generated by textual comments along with the rating contribute the efficient classification of data rather than only the rating and obtain various insights as a part of the analysis. In general, when a person wants to buy a product, he checks for the review of the product and then makes a decision whether to buy or not. In more specific terms, the user checks only the rating and makes a decision. We have understood that sometimes rating is misleading the customers and it alone cannot be the sole parameter to take a decision hence we are comparing ratings and comments for better efficiency and authenticity of product reviews.

Index Terms— NLP, SVM, KNN, and Logistic Regression.

I. INTRODUCTION

Researchers already use social data to analyze the sentiment of users' opinions on a product, event, or setting. Moreover, People utilize online comments to convey their interests or attitude in social networks, thanks to the rapid development of Internet technology. We can utilize these comments to extract vital information, such as consumer sentiment for a particular product. One of the most important research tasks in text mining is sentiment categorization. Researchers are already analyzing the sentiment of consumers' opinions on a product, event, or location using social data. In addition, sentiment analysis is frequently referred to as opinion mining, which is an important NLP task. The direction of the sentiments is determined by this sentiment analysis. In respect to text, as neutral, positive, or negative in addition, text analytics, computational linguistics, and natural language processing (NLP) are all used in sentiment analysis to recognize and understand the text. Organizing the user's points of view. The primary purpose of sentiment analysis is to determine the author's perspective on a similar event or the overall polarity of the material. Views of emotional communication might include a user's judgment or appraisal, emotional state, or deliberative state. It's typically used to identify sentiment information disclosed by people in comments, such as movie reviews. Sentiment analysis, also known as opinion mining, is the process of extracting a reviewer's attitude from a movie, usually in the form of a sentence or a review. Sentiment analysis

Trends and Paradigms in Machine Learning – A Review

DevaRajashekar¹ and Jujuroo Sowmya²

^{1,2}Asst.Prof, Department of CSE, Methodist College of Engineering & Technology, Hyderabad, India
Email: rajshekardeva@gmail.com, jsowmya@methodist.edu.in

Abstract—This paper examines recent advances in the area of machine learning. Machine learning has emerged as a novel approach to producing fresh, precise decisions in the processing of massive amounts of data. In the next applications, where a huge amount of learning data must be analyzed in order to produce a judgement, the learning technique will become increasingly important. The field of automation was creating new interfaces and solutions for precise and effective mining in a variety of applications, including retrieval of information, medical applications, military surveillance, privacy and authentication concerns, astronomy data processing, etc. The development of machine learning techniques using different learning approaches, including the biological system, classification approach, and decision approach, are discussed in this study. In order to produce an approach that relies on training and validation, a machine learning strategy is employed, which involves learning specifics like descriptive characteristics and various predictive analytic algorithms in order to develop the best match option. While there have been many advances in the field of machine learning that have resulted in faster and more accurate learning systems, there is still room for development in the monitoring element. The limitations of machine learning are twofold: while intricacy and information extraction must be kept to a minimum, a higher level of accuracy is required. This study described the evolution and limitations of the current machine learning approaches.

Index Terms— Dimensional Reduction Reinforcement Learning, Boosting, Predictive modeling Ensemble Learning, Instance learning, Regression Modeling.

I. INTRODUCTION

A crucial challenge in many automation applications is the retrieval of data from a huge dataset. The need to automate the current approach drives up the effort put into machine learning for current and upcoming applications. The field of machine learning has recently seen advancements in deep learning [1], Bayesian modelling [2], non-parametric processing [3], etc. The demand for novel machine learning approaches, where a significant signaling request and data accessing, has increased due to the increase in the number of data in the registered data base. New methods to speed up and streamline the process have been prioritized as machine learning has advanced. The dissemination of data is no longer restricted to a single site thanks to the development of new architectures and network configurations, but rather to maintain a vast. Data delivery units are dispersed throughout a large network and communicate with one another. New topologies have emerged throughout the evolution, including heterogeneous networks [6,4], distributed computing [5], and cloud

Automated Deep Learning with Wavelet Neural Network based Rice Plant Classification

¹V.Rekha

Assistant Professor,
Agurchand Manmull Jain College,
Chennai, Tamil Nadu, India.
rekhaonmail@gmail.com

³Dr. Sachin Vasant Chaudhari

Associate Professor, Department of Electronics & Computer
Engineering,
Sanjivani College of Engineering,
Kopargon, India.
chaudharisachin@c@sanjivani.org.in

⁵C. Nithiya

Assistant professor, Department of ECE, R.M.K. College of
Engineering and Technology,
Puduvoyal, India.
nithiyalin@gmail.com

²Dr.L.Venkateswara Reddy-SMIEEE

Professor, Department of Computer Science and Engineering,
KG Reddy College of Engineering and Technology,
Hyderabad, Telangana, India.
lakkireddy.via@gmail.com

⁴Arepalli Gopi

Assistant Professor, Department of Computer Science Engineering,
Koneru Lakshmaiah Education Foundation
Guntur (d.t), Andhra Pradesh, India.
gopi.arepalli400@gmail.com

⁶Dr. Shaik Khaleel Ahamed

Associate Professor, Department of CSE,
Methodist College of Engineering and Technology
Hyderabad, Telangana, India.
khaleelska@gmail.com

Abstract—In the agricultural sector, a disease that occurs in plants is primarily responsible for the decrease in production and results in massive financial loss. Rice is considered the crucial food crop in Asian nations and is affected by distinct types of diseases. Due to the arrival of deep learning (DL) and computer vision methods, rice plant ailments will be identified and diminish the problem of the agriculturalists to save the crops. Currently, computer aided diagnosis (CAD) methods become accessible to observe pests and crop diseases with the help of plant images. An automatic rice disease prognosis technique could present details regarding preventing and controlling rice ailments for decreasing the monetary loss, decline the insecticide residue, and increase the number and quality of yields. In order to attain this method, authors are advised to advance effective image processing methods for noticing plant diseases. Therefore, this paper presents an Automated Deep Learning with Wavelet Neural Network Based Rice Plant Classification model named ADLWNN model. The proposed ADLWNN model focuses on the effectual recognition and categorization of rice plant images. The proposed ADLWNN model primarily exploits convolutional neural network (CNN) model to extract features from the input rice plant images. Moreover, manta ray optimization algorithm (MRFO) algorithm is applied as a hyperparameter optimizer. Besides, the WNN model is employed for the robust recognition and categorization of rice plant images. The simulation analysis of the ADLWNN model is tested using a set of rice plant images and the results indicated as 98.17% better outcomes for the ADLWNN model over other techniques.

Keywords— Rice plant images; Disease diagnosis; Image classification; Convolution neural network; Machine learning

I. INTRODUCTION

Rice is considered to be a staple food in India and all over the world. Nearly half of the global population relies upon rice [1]. Furthermore, a loss of 10 to 15 percent in rice production happens because of rice plant diseases. Therefore, it will be a great challenge for agricultural field to assuring food security for these large populations. It is believed that main factors for such diseases were bacteria and fungi [2]. Such diseased rice plants lead to a decrease in rice production which results in great economic loss to farmers annually. Therefore, the disease diagnosis in agricultural products at initial level was indispensable to thwarting productivity loss and quality improvement as well [3]. Accordingly, it serves an important role in economic growth of a country. Traditionally, rice plant disease recognition can be executed depending on visual valuation of the indications or depends on the experimental outcome by culturing pathogens in labs [4]. The visual valuation was a subjective method and disposed to error. Where culturing pathogens in lab was taking more time and there was also no guarantee of rendering the outcome in time. Along with such limits, both traditional methods need experts for disease identification and it was tough for agriculturalists to get access to specialists because of interior region of their agricultural domain [5]. Such problems have encouraged the research domain for investigating several techniques for developing automated detection and categorization methods for rice plant diseases [6].

In conventional tactics, the time complexity was important, and it can be hard to accurately detect the disease and evaluate its polluted areas in supporting large farming areas [7]. The recognition of pests/insects and diseases on a timely basis has been shown critical for agricultural outcomes. There was a

Implementation of Kernels, Hybridization and Optimizers to Enhance SVM Classifier Accuracy

Dr.U.Moulali¹, Tariku Birhanu Yadesa², A. Sowjanya³ and Sana Mateen⁴

¹Associate Professor, CSE Dept, Methodist College of Engineering and Technology, Hyderabad

Email: moulaliu@methodist.edu.in

²Tariku Birhanu Yadesa, HOD,Lecture, department of Computer Science, Wollega University Nekemte, Ethiopia

Email: tariku.123@gmail.com

³⁻⁴Assistant Professor, CSE Dept, Methodist College of Engineering and Technology, Hyderabad

Email: a.sowjanya@methodist.edu.in, sanamateen@methodist.edu.in

Abstract—The paper deals with improving the results of SVM (Support Vector Machine) by selecting the best kernel (Radial Bias Function kernel, Linear kernel, Sigmoid kernel, Polynomial kernel) and merging the best kernel with a compatible kernel that will overcome the disadvantages in one kernel and increases the overall accuracy of the prediction and finally, converting the Support Vector Machine into a neural network that accepts an optimizer to improve the model and make it effective, as well as adding a Stochastic Gradient Descent (SGD) optimizer to increase the SVM's prediction accuracy, and using SoftMax and Linear activation functions as SVM kernels gives us an SVM model that is more effective than the original SVM model. Once all three techniques have been finished, the model with the highest accuracy among all models will be chosen. The classification of a class decision obtained on the basis of the SVM hyperplane is based on sub-objects determined by experiments close to the class-to-class hyperplane and which include both precise and incorrectly placed objects in the vector space. In the case of improving the quality of the item separation from the original database, the proposed item classification methods may be recommended for the classification of new items. When you upgrade the SVM section, the default parameters used are used. Comparative analysis of the classification results obtained during a test in the compilation of the Multi-class SVM. MPKF and MKF work and functions, similar to the results obtained in the SVM phase modification test using a stochastic gradient drop optimizer that has the functionality of SoftMax, where the parameter values are randomly determined, ensures the suitability of using these composite characters to enhance the quality of the SVM partition. In many cases, the mixing and preparation of the SVM planes work best in terms of improving the quality of the SVM partition.

Index Terms— Machine Learning, Neural Networks, High Dimensional Datasets, Support Vector Machines, SVM Kernels, Hybrid Model, Optimizers, Activation Functions.

I. INTRODUCTION

The Support Vector Machine (SVM) is normally based on the VC concept and the principle of minimizing structural risk. In some learning environments that require more accurate learning functionality, SVM can be upgraded to meet this goal. This paper describes different Boost-SVM methods, such as changing the SVM

Analysis of Prediction Algorithm for Recognitions of Skin Disease Report in Hyderabad City

Shaik Abdul Khalandar Basha¹, Dr.U.Moulali², Dr. S.Khaleel Ahamed³ and Aruna varnasi⁴
^{1,4}Sreenidhi Institute of Science and Technology, Hyderabad
Email: abdulshaik@sreenidhi.edu.in
^{2,3}Associate Professor, CSE Dept, Methodist College of Engineering and Technology, Hyderabad
Email: moulali.u@gmail.com

Abstract—Hyderabad is highly affected by climate change and is reported to be a highly prone skin disease-endemic area. This study investigates the association between skin diseases and climate factors. For selecting the best-fit climate prediction method for skin diseases occurrence in Hyderabad city, we have considered 3 different machine learning regression models namely: Poisson Distributed Lag Model [PDLM], Seasonal Autoregressive Integrated Moving Average Model [SARIMA] and other model Standard Multiple Regression [SMR] directed toward investigate the relationship between skin diseases and climate attributes incident during the time period 2000 to 2018. We verify the models lag predicting skin diseases for the time duration of January month to December month 2019 using the MAPE. ROC curves were considered to examine the prediction rate of a skin disease outburst. The results show that relative humidity and temperature are significant parameters which promote skin diseases where there is no rainfall effect. The PDLM model presents the finest fitting prediction of skin disease occurrence and identification of an outbreak when analyzed for a 6, 9, and 12 month time. Nevertheless, the SARIMA algorithm enacts a better prediction of skin disease occurrence for a short 3 month time period. The standard multiple regressions present a high loss prediction of skin disease incidence. From our results we are encouraged to carry out an extensive analysis to validate and examine the model with more data in Hyderabad city and contribute in prevention and control of skin diseases at an early stage.

I. INTRODUCTION

Skin Cancer related Diseases is the most widespread disease during summer and winter around the world. Skin cancer occurrence has increased since 3 decades, the skin is the organ most exposed to environmental UVR and it is roughly calculated that 40 lakhs skin diseases take place each year. Nearly 2 crore people reside in skin cancer effected countries [1]. Tropical areas America, Australia, India, central Asia and Pacific locations are mostly bundled with skin diseases, and in which southeast India and the central Asia area bear nearly 30% of the present worldwide diseases bundle due to skin [2]–[4]. Some type of Skin are vulnerable to higher Temperature that result from worldwide global warming which cover an increasing occurrence of skin diseases [5]–[7]. The annual investigation by has confirm the increase of skin diseases at higher temperature. In-room temperature UV radiations get carcinogenic. In human beings, the occurrence of squamous cell basal and cell carcinoma rises by 45% and 2.4%, respectively, per 1°C rise in atmospheric temperature [8]. These estimates correlate to a rise in the virtual UV dose of around 1.5% per 1°C rise. Skin cancer can give rise to a change of skin color with more than 6

Frequency Domain Feature Statistics for Cardiovascular Disease Diagnosis on Low-Computational Devices

Diana Moses¹, Gladson Maria Britto², Deisy C³ and Dainty⁴

¹Associate Professor, Methodist College of Engineering and Technology, Hyd, India

²Professor and Dean Mallareddy College of Engineering, Hyd, Ind

³Thiagarar College of Engineering, Madurai, India

⁴Technology Lead, Infosys, Atlanta, USA

Abstract—Towards providing a low cost and readily available healthcare intervention system for rural India, we propose novel methods to analyze ECG on Android mobile devices for diagnostic purposes. In the proposed system, ECG is compressed to reduce the volume of input so as to enable processing on a low computational mobile device. Morphological, wavelet and statistical features are extracted directly from the compressed ECG. The subset of most discriminative features is extracted using information theoretic Dynamic Weighting based Feature Selection. Hybrid classification using majority voting-based classifier fusion is applied to enhance the classification performance. For the 14 MIT Arrhythmia classes, the proposed system achieved classification accuracy of 99.3% and a sensitivity of 100 % and a specificity of 98.9 %. Comparison with other existing methods shows better performance of the proposed method.

Index Terms— Android App; ECG Analysis; Feature Extraction; Feature Selection; Hybrid Classifier; Mobile Telecardiology.

I. INTRODUCTION

Cardiovascular diseases (CVDs) are the major cause for morbidity and mortality in developing nations as India. Cardiovascular disease encompasses all types of abnormalities affecting the Heart muscles, Valves and/or the blood vessels. These can be diagnosed using the Electrocardiogram (ECG), which is a device for recording the electrical impulses of the heart. The analysis of ECG demands expert knowledge which is not readily available in rural areas. In order to overcome this, mobile based healthcare intervention strategies were proposed. The two major challenges in mobile based ECG analysis systems include those inherent to mobile applications and ECG Classification.

Challenges inherent to mobile applications for analyzing ECG in a real-time environment are limitation in: storage, computational capacity, bandwidth and associated delays. Accordingly, general mobile based telecardiology architecture has evolved incorporating ECG Compression, low computation methods for feature extraction and classification and strategies to mitigate delays [1]. Despite the risks of losing of clinically significant data, lossy compression was used [2]. Features are generally extracted in time or frequency domain. In realization of the computational capacity of these devices, mobile based systems extract the key features in the time domain only and overlook frequency domain feature extraction methods. Time domain feature extraction methods adopted by many mobile based systems include the Pan Tompkins [3] algorithm for QRS detection and

An Efficient Approach for Identification of Copy- Move Image Forgery using SURF and SIFT based Techniques

Shaik Rasool¹, Uma N. Dulhare², Vasavi Sravanthi Balusa³, Deepthi Joshi⁴ and Shaziya jabeen⁵

^{1,3,5}Methodist College of Engineering and Technology, Hyderabad, India

Email: shaikrasool@outlook.com, vasavibvs@gmail.com, deepthijayam@gmail.com, shaziyajabeen@gmail.com

²Muffakham Jah College of Engineering and Technology, Hyderabad, India,

Email: prof.umadulhare@gmail.com

Abstract—Internet has changed the world of computers and how we use them. Now there is no field left that may not require internet. It has impacted mostly the fields like image processing, machine learning, cyber security, data mining etc. Technological developments today have made the life so comfortable and easy but also put forward a challenge of authentication of digital data generated from various domains. This has become a major concern for security. To address this concern, we are encapsulating facet point juxtaposition, adaptive over dissection for forgery identification in our proposal. We have based our work on Key point and Section based forgery identification techniques. Adaptive non-intersecting, irregular sections are utilized to uncover suspicious sections in the images. Dissection algorithms are used to assist in this process. Facet points are mined by comparing and juxtaposition each section with its facets. Super pixels are used instead of facet points in the proposed forgery section mining system. The neighbouring sections are melded into facet sections to acquire merged sections which have similar color facets. To end the process morphological operations are used over merged sections to obtain forgery section. The outcomes obtained shows that this proposed algorithm can achieve superior and accurate outcomes even in most critical constraints when compared to other existing approaches.

Index Terms— Image Processing, Forgery Identification, Image Forgery, Juxtaposition, Digital Images.

I. INTRODUCTION

Digital image processing in this modern era has become one of the most protruding domains for research in multidisciplinary fields. The core of electromagnetic spectrum and security is constituted by digital image processing. It has become the primary focus of research with huge scope to safeguard privacy and maintain confidentiality. Achieving the desired outcomes in image processing remains a challenging task that needs an apt solution. Digital images are primary source for forensics, deep learning, AI and thrust areas. Using deep learning techniques today, we can fake eminent personalities thus by posing challenge to forensics to detect forgery images. The disparity between forgery and original image has been narrowed down deeply that it's almost becoming impractical to identify the difference. This drawback is addressed by proposed work [1]. Image forgery has become very common today in social networks. Copy-move forgery is among well-known digital image manipulation practices today that copies portion of the image and is bonded at a different location

A Secure Voting System using Iris Recognition

Dr. M. Sharadha Varalakshmi¹, Nikhila Bethi², N. Lakshmi Samyu³ and Samiya Hafsa⁴

¹Professor, Methodist College of Engineering and Technology/Computer Science and Engineering, Hyderabad, India

Email: msharada@methodist.edu.in

²⁻⁴Methodist College of Engineering and Technology/Computer Science and Engineering, Hyderabad, India

Email: {saritha760, saivirinchi103, akarshanagoud2001}@gmail.com

Abstract—During elections in democratic countries, the voting mechanism is extremely significant.

India holds elections using either Secret Ballot Voting or Electronic Voting Machines which involves massive costs and manual labor. The election commission is having a lot of problems during the election process. The most common issue that the electoral commission deals with is the polling arrangement and duplicate or voting fraud. Electronic voting machines need more personnel, are time-consuming, and are less reliable. As a result, the system must be tuned to be efficient, leaving no opportunity for poor voting procedures. In this project, a secure and modern voting system employing iris recognition and facial recognition is built to improve the present voting system. The most reliable biometric of human identification is iris recognition. The proposed system allows users to vote only after verifying their iris image. Iris recognition system is categorized into Canny Edge Detector, iris Circular Hough transformation, symlet wavelet, iris-based authentication detection.

Index Terms— iris, e-voting, secure, hough transform.

I. INTRODUCTION

In any country, the election process is a major administrative task. It employs a number of processes, all of which require human effort. Voting techniques are now transferred to electronic format and used in a variety of automated tasks. This will save time by reducing traditional paper tasks. E-voting is a computer-assisted voting mechanism that can be used both online and offline. Each voter's information is recorded with a unique ID and saved in a database.

Every voter's information is retrieved and confirmed whenever the ballot method is used. In an electronic voting system, voter identification is crucial.

Existing voting systems' core problem is security. An unidentified person may often cast a vote. Some politicians bid to secure elections by unlawful means. Existing systems are very long, difficult, and with time lags. We use an Iris pattern and as a result, the suggested voting mechanism is more secure than the alternating current system.

II. METHODOLOGY

Canny Edge Detection:

Canny Edge Detection is a popular edge detection algorithm that was developed by John

F. Canny. It takes the Sobel algorithm's output as its input and is a multi-stage algorithm with stages like Noise

Hrypton: Password Manager App Built using SHA-256 Cryptographic Hash Function

S.Karthik Kumar¹, A. Anudeep², M. Dhruvteja³, and Dr. M. Sharada Varalakshmi⁴

¹⁻³Methodist College of Engineering and Technology/Computer Science and Engineering, Hyderabad, India
Email: karthik.sirnam@gmail.com, {arvapally, anudeep, dhruvtejamanjrekar}@gmail.com

⁴M.Tech, Ph.D, Professor, Methodist College of Engineering and Technology/Computer Science and Engineering, Hyderabad, India
Email: msharada@methodist.edu.in

Abstract—Explosive growth in the number of passwords for web-based Applications and encryption keys far surpass the management's allotted number of users for outsourced data storage. the outsourcing of keys (including passwords and data encryption keys) to the professional password managers (honest-but-curious service providers) which attracts the attention of many users. However, current approaches to conventional data outsourcing scenarios cannot meet the security requirements for crucial outsourcing simultaneously. So, the proposed Hrypton is a modified cryptographic hash function that addresses all three goals above. Under the framework, the key owner can perform privacy, and controllable authorization-enforced encryption with minimum information leakage. To implement Hrypton efficiently, a new cryptographic primitive named Searchable Conditional Proxy Re-Encryption (SC-PRE) combines the techniques of Hidden Vector Encryption (HVE) and Proxy Re-Encryption (PRE) seamlessly and proposes a concrete SCPRE scheme based on existing HVE and PRE schemes.

Index Terms— Hash Function, SHA-256, Encryption, Security, Cryptographic.

I. INTRODUCTION

An individual's passwords for multiple online accounts and security features are stored and managed by a password manager, which is a piece of software. With a master password, password managers offer secure access to all password information and store passwords in an encrypted format password.

If your current passwords are weak, the best password managers will alert you. brittle, frequently used, or have been implicated in a data leak. These tools assist you in maintaining good password hygiene by providing fresh, robust, and outstanding login credentials for each session. We advise configuring your password manager to create passwords of at least 20 characters and a variety of character kinds, including uppercase, lowercase, numbers, and symbols.

Password management tools also provide several other standard features. It's common for them to have password generators that can create strong passwords. Many also can automatically fill out Web forms, such as online job applications, order forms on retail sites, and contest forms. By entering your contact information into the tool, it can then pass your name, address, and other contact information into fields on whatever Web form is loaded in your browser. Then, by pressing a button, you can fill out most or all of a

A Deep Exposition of Data Science: Related Issues and its Applications

Syed Azahad¹, Venkatram Vennam² and M.V.D.S. Krishnamurty³

¹⁻³Department of Computer Science Engineering, MCET, Hyderabad, Telangana

Email: azahadsyed@methdoist.edu.in, venkatram@methodist.edu.in, mkrishnamurty@methodist.edu.in

Abstract—Data science is the study of extracting, collecting, gathering, representing, and safeguarding data for use in technical problems or for business goals. Although the term "Data Science" may seem to refer to databases and software engineering, numerous other quantitative and qualitative skills, including non-mathematical skills, are also necessary. Information dissection is the main goal of data science. This essay provides an explanation of what data science is, how it works, and some possible applications. This essay's second section contains several reviews of data science. The full data science method is illustrated in Section III of this essay. The data science-related research topics are all described in Section IV. The report concludes with several recommendations for data science-related future research. The writers of the current study will make an effort to look at the various problems, execution, and challenges in the field of data science.

Index Terms— Information, Data Science, investigation, management, cloud computing.

I. INTRODUCTION

Data science is the aggregation from a sizable amount of data that is combined or free, or, to put it another way, it is the field of data mining and data disclosure, which are generally terms for data scooping and perception research. The statement made by John Tukey on this subject and his conclusion are as follows: "The combination of a few data and a desperate need for an answer does not ensure that a sane answer can be derived from a given set of data".

According to Hal Varian, Google's economist, "the ability to absorb information—to have the capacity to interpret it, to analyze it, to remove an incentive from it, to visualize it, to present it—that will be an enormously vital competence in the next decades. Since information is essentially free and readily available right now. The ability to interpret that knowledge and draw a benefit from it is therefore a complementary rare factor. This science's field covers data sequencing, collection, and presentation, bits of information, and machines that make assumptions about how to handle various problems in various fields.

II. LITERARY REVIEW

According to Dr. S. Justus (2013), the entrance layers, processes, and capacity frameworks for big data are all improving gradually. In this significant circumstance, test architects and testing groups are not prohibited. They focus on some of the problems that test groups would shortly look into. For adaptive performance benchmarking and quality affirmation in the current machine-learning and examination outstanding tasks at hand, J. Nowling

Identifying Vertex Influential Nodes in Considerable Composite Networks using Grid Layout

Srinu Dharavath¹, D Natarajasivan² and Senthil Kumar³

^{1,2}Department of Computer Science and Engineering, Annamalai University, Annamalai Nagar, Chidambaram
Email: srinudharavathphd@gmail.com., natarajasivan@gmail.com.

³Department of Computer Science and Engineering, Methodist College of Engineering and Technology, Hyderabad
Email: aarcse100@gmail.com

Abstract—Online social networks are famous for various activities like creativity, spreading information, and ideas, for the most part for viral marketing. The main focus in the social influence analysis, known as the influence maximization problem(IMP), aims to select Top-N nodes to maximize the expected number of nodes activated by the Top-N nodes (a.k.a seed nodes). This issue has gotten a lot of attention and has been looking into the issue of IMP; these studies are usually too time-consuming to be useful in a complex social media network. The problem of seed selection is NP-hard. Due to the utilization of time-consuming Monte Carlo simulations, which are confined to small networks, so a greedy method to the IM issue is insufficient? The greedy approach, on the other hand, offers a good approximation assurance. In this paper, we present an algorithm for identifying communities and computing the ranking scores of nodes in the identified communities to solve the IMP with a focus on time efficiency.

Index Terms— Top-N influential nodes, Node ranking Score, Information propagation. K-Shell decomposition, Complex networks.

I. INTRODUCTION

In recent years, with the advancement of communication technology and the widespread use of the internet, the number of people using social media sites is on the rise. Online social networks have grown ingrained in the lives of all users. As a result, a vast volume of information and ideas is transmitted every day across networks that may affect a big number of individuals for a brief period [1]. From the last two decades, many researchers have been concerned about the Influence Spread (IS) and influence among social networks, and their results have paved the way for many online applications such as viral marketing [2], which is a successful strategy and practical platform that is used as a launching pad and spreads through W-O-M/word-of-mouth on social media sites. One of the oldest and most practical kinds of marketing, word-of-mouth, is a simple way of getting an advertising or promotional message out to people. For example, a firm may wish to target a limited number of people (a.k.a seeds) for a trial of a new brand via social-media-networking medium in the hopes that these early adopters would encourage their friends, and they influence their friends, to buy the product. The assumption is that word-of-mouth marketing will help the firm reach a large pool of targeted users. Under the spreading model, this situation is formally characterized as the influence maximization problem[3], which seeks to choose the initial seeds who can encourage the greatest number of consumers to accept a marketed product. Domingo et al. [3]were the first to present the IMP from the standpoint of the algorithm inspired by the concept

Short Term Memory Recurrent Neural Network-based Machine Learning Model for Predicting Bit-coin Market Prices

Mr.M.Ravi Kumar¹, Dr. Syed Umar² and V. Venkatram³

^{1,3}Assistant Professor, CSE Dept, Methodist College of Engineering and Technology, Hyderabad
Email: ravi2kinus@gmail.com, venkatram@methodist.edu.in

²Professor, Department of computer science, College of Engineering, Wollega University, Nekemte, Oromiya Region, Ethiopia-390
Email: umar332@gmail.com

Abstract—Machine learning based on Deep neural Network have integrated usages in a variety of domains such as translation, finance, distribution, and medical world as well as cognition. This study illustrates Recurrent Neural Network Learning Model on the basis of LSTM, which analyses the previous values of a crypto currency, Bit coin and predicts the future one. This application estimates the actual and anticipated price of Bit coin, starting with 30 days of the previous price and then extrapolating to forecast the next day's price. At a ratio of 1:9, a regularized data set for modeling is separated into test data and training data. The previous set is divided again, this time between training and validation data. The machine learning from this research should use the usage of the Neural Network library and the Keras framework. You optimize the process by searching for the model's weight using the training data while trying to fit the model. In this article, the batch size and epochs for the fit function are 11 and 30, respectively. The loss is reduced more slowly, then levels off to a more steady amount as learning is processed repeatedly. In other words, over fitting is impossible. As the outcome of the experiment, the machine learning states that the neural network becomes better at processing after studying the graphs of error rates and weight change rates.

Index Terms— Bitcoin, Block Chain, price, LSTM, Recurrent Neural Network, prediction.

I. INTRODUCTION

Artificial intelligence is described as a program that simulates human thought processes and behavior, including natural language processing, automatic inference, computer vision, voice recognition, and knowledge representation. The two categories of learning in Artificial Intelligence are supervised and unsupervised learning, depending on whether a label is in the learning data. To solve an issue, the brain uses strategies including grouping, categorization, and forecasting. A learning model should be established in advance, according to research from [1,2]. Machine learning, with its predictive analysis, provides knowledge and advice suited to the task at hand, calculating patterns and possible outcomes before projecting the most likely results. RNN, when applied to estimation problems dealing with time series data like monthly sales, price index, unemployment rate, exchange rate, and stock price, generates the following data prediction via learning context -> RNN, when

Multi-Mode Detection and Identification of Biometric using Multilevel Scaler SVM

Dr. Shruthi SK¹, Mr. P. V. Ramanaiyah² and Mr. Ravi Kumar Munaganuri³

^{1,3} Assistant Professor, CSE Department, Methodist College of Engineering and Technology

Abstract—The Face, iris and fingerprint are most promising biometric authentication system that can be identify and analysis a person as their unique features that can be quickly extracted during the recognition process. To ensure the actual presence of a real legitimate trait in difference to a fake self-pretended synthetic or reconstructed sample is aimportant problem in biometric verification, which needs the development of new and efficient protection measures. Biometric systems are vulnerable to spoofing attack. A dependable and efficient countermeasure is needed in order to combat the epidemic growth in identity theft. The biometric detection and authentication deals with non-ideal scenarios such as blurred images, reflections and also faked by the other users. For this reason, image quality assessment approaches to implement fake detection method in multimodal biometric systems. Image quality assessment approach is used to construct the feature vectors that include quality parameters such as reflection, blur level, color diversity, error rate, noise rate, similarity values and so on. These features are stored as vector in database. Then implement Multi level Support Vector Machine classification algorithm to predict fake biometrics.

Index Terms— Multimodal biometrics, Image Quality, Spoofing attack, Fake detection, Feature Vector.

I. INTRODUCTION

Biometric is epidemically growing technology for automated acknowledgment or authentication of the uniqueness of a person using distinctive physical or behavioral characteristics such as fingerprints, face, iris, retina, voice, hand geometry and signature etc. To ascertain a personnel identity biometric relies on - who you are or what you do, as conflicting to what you remember such as a PIN number or secrete keyword or what you use -such as an ID card. However, significant advances have been realized in biometrics, several spoofing techniques have been established to deceive the biometric systems, and the protection of such systems against attacks is still an open problem. Among the changed threats examined, the direct or spoofing attacks have provoked the biometric community to study the liabilities: contradiction of this type of duplicitous actions in performances such as the fingerprint, the face, the signature, or even the bearing and multimodal tactics. Spoofing attacks arise when a person tries to masquerade as someone else faking the biometrics data that are confined by the acquisition sensor in an attempt to avoid a biometric system and thereby ahead illegal access and advantages. Some type of falsely created artifact e.g. gummy finger, printed iris image, face mask, photograph, audiovisual, 3d Model or imitate the behavior of the actual user (e.g., gait, signature) etc. are used by the imposter to fake the biometric scheme. Consequently, there is an accumulative essential to detect such efforts of attacks to biometric systems. Liveness detection is one of the existing countermeasures in contradiction of spoofing attack. It aims at

An Intelligent Way to Recognize Digits using Convolutional Neural Networks (CNN) Algorithm

A. Virinchi Sai¹, M. Sai Dhanush², M.N. Akarshana³, and Sandeep R⁴

¹⁻³Methodist College of Engineering and Technology/Computer Science and Engineering, Hyderabad, India

Email: saidhanushccs@gmail.com, akarshanagoud2001@gmail.com

⁴Asst. Professor, Methodist College of Engineering and Technology/Computer Science and Engineering, Hyderabad, India
Email: rsandeep@methodist.edu.in

Abstract—The Handwritten digit recognition issue in pattern recognition systems is one of the more significant technical issues. Applications for digit recognition include data entry forms, bank check processing, postal mail sorting, and more. The capacity to create a practical algorithm that can recognize handwritten digits given by users via a scanner, tablet and other digital devices is at the core of the issue. The study's main goals were to create a machine learning algorithm and an optimization technique to improve the precision of handwritten digits recognition, as well as to analyze the performance of the proposed algorithm with test data set. This model offers a method for recognizing handwritten digits offline that is based on various machine learning techniques. There are several machine learning algorithms such as Support Vector Machine, Random Forest, Multilayer Perceptron, Convolutional Neural Network etc. In this project is aimed to use Convolutional Neural Network to complete the task. The MNIST dataset also used in this project. The main objective of this model is to ensure effective and reliable approaches for recognition of handwritten digits.

Index Terms— CNN, Neural Network.

I. INTRODUCTION

The sudden growth of new documents and multimedia news has created new challenges in pattern recognition and machine learning (Cecotti, 2016). Handwriting character recognition has become a common research area due to technological advances such as handwriting capture devices and powerful mobile computers. However, since handwriting focuses on the writer, building a highly reliable recognition system that recognizes any handwritten character input to an application can be challenging.

In this work, we deal with the recognition problem of handwritten numbers, i.e. the numbers 0-9. Handwritten number recognition is usually crucial in various practical applications such as management and economics (Niu & Suen, 2012). These industries require excellent recognition and the highest credibility. For example, unconstrained handwritten digit recognition has been applied to checks and hand-filled forms such as tax forms or postal codes on postcards with excellent results (Lauer, Suen, & Bloch, 2007). Constraint perception refers to the extent to which people believe that factors beyond their control limit their behaviour. In contrast, an unconstrained detection system can be divided into several parts: preprocessing, feature extraction, classification, evaluation, and verification.

Web Service Ranking and Classification using Intelligent Techniques

Dr. Ramakanta Mohanty

Methodist College of Engineering and Technology, King Koti Road, Abids, Hyderabad, TS
Email: ramakanta5a@gmail.com

Abstract—In the fastidious ever-growing world of businesses when the constant exchange of web services takes place, it is important for the buyer and seller to understand where their web service stands. A web service is a set of open protocols and standards that allow data to be exchanged between different applications or systems. Web services can be used by software programs written in a variety of programming languages and running on a variety of platforms to exchange data via computer networks such as the Internet in a similar way to inter-process communication on a single computer. The QWS dataset version II is collected from literature which is not having class level. The dataset is normalized using min-max method and employ stratified cross validation to make different fold systems. To make the different web services into different class levels, we employ two different clustering algorithm viz. K-means, and Fuzzy C-means to cluster different web services into different clusters. To test the different class level simulated by clustering algorithm, machine learning algorithm is employed i.e. Genetic Programming (GP), and Random Forest to test the efficacy of the model. From our experimental results, it is observed that C-Fuzzy means clustering provided the best clustering level compared to other techniques. The average accuracy of 99.23% provided by Genetic programming.

Index Terms— Fuzzy C-means, K-means, Genetic Programming, Random Forest, Intelligent Techniques, Web Services.

I. INTRODUCTION

The inter connectivity of thousands of different types of computers across the globe that are a component of various networks is known as the Internet. A web service is a defined technique for message transmission between client and server applications on the World Wide Web. A software module called a web service is designed to perform a certain set of tasks. In cloud computing, web services are searchable and dynamically typed across a network. The client that called the web service would be able to receive functionality from the web service [1].

A web service is a collection of open protocols and standards that enable the transfer of data across various software programs or computer systems. In a manner similar to inter-process communication on a single computer, web services may be used by software programs created in a range of programming languages and running on a variety of platforms to exchange data across computer networks like the Internet.

A web service is any piece of software, application, or cloud technology that connects to the internet and exchanges data messages, typically in the form of XML (Extensible Markup Language), using defined web

Analysis of the Regulatory Development Cryptocurrencies for Trading in Business with Deep Learning Techniques

Uma N Dulhare
Professor and Head
Department of CS & AI
Muffakham Jah College of Engineering
And Technology
Telangana, India
prof.umadulhare@gmail.com

Bhasker Pant
Department of CSE
Graphic Era Deemed to be University
And Graphic Era Hill University
Dehradun, Uttarakhand, India
Bhasker.pant@geu.ac.in

Shaik Rasool
Assistant Professor
Department of CSE
Methodist College of Engineering
and Technology
Telangana, India
shaikrasool@outlook.com

Dr. A. Kakoli Rao
Professor and HOD
Department of CSE
Lloyd Institute of Engineering and
Technology
Greater Noida, Uttar Pradesh, India.
hodcse@liet.in

Mohammad Naseer Khan
Principal Software Engineer
Visual Technologies LLC
Dallas, Texas
United States
mohammadnaseerkhan@outlook.com

Garima Bhardwaj
Amity University
Greater Noida
Uttar Pradesh, India
gbhardwaj@gn.amity.edu

Abstract- As the number of people infected with COVID-19 continues to rise, a number of nations have implemented state wide quarantines. This has resulted in a global financial crisis that is having severe impacts on countries all around the world. As a direct consequence of the epidemic, unemployment rates have increased in a number of different regions, which has a substantial and detrimental effect on trade across the globe. In light of the current state of the economy, Artificial Intelligence (AI) is causing a shift in the manner in which businesses evaluate their bitcoin holdings. The application of AI in a commercial setting has the potential to produce a wide range of beneficial results. We are spared from completing as much manual labour as a direct result of the favourable effects that AI has had on technology. These consequences can be noticed in our day-to-day lives. In the event that there is a pandemic, having knowledge of AI and the various strategies it employs, such as the classifier model, could be beneficial. Humans will be better suited to make decisions if they have rapid access to the analyses and projections that are created by AI and big data. In order to be prepared for the arrival of the new world, the company is putting in more effort, in collaboration with small and medium-sized enterprises (SMEs) and start-ups, to improve the administration of virtual enterprises by having a presence on a variety of different e-trade systems. Artificial intelligence (AI) is currently being utilised in a variety of settings to assist with the process of identifying and implementing workable solutions to a variety of problems that can develop in the workplace. AI is being used to improve business operations in a wide variety of spheres, including marketing, fraud detection, algorithmic trading, customer assistance, portfolio management, and product recommendations based on customer preferences. These are just few of the sectors. These are just a few examples of the kinds of problems that artificial intelligence might be able to solve in the future. Given the present worth of cryptocurrencies, technological developments may also be made in order to improve the performance of the rules that have been provided and produce the most accurate conclusion that is possible.

Keywords: AI and Machine Learning, Big Data, Business Analytics, and Decision Making.

1. INTRODUCTION

At this point, the COVID-19 virus has spread to all seven continents. People who are in close quarters with an unwell person are more likely to transmit the virus to that person by their coughing, sneezing, and other respiratory movements. There is currently no treatment available for this ailment. When taking medication, the easiest way to avoid becoming ill is to ensure that you follow the dosing instructions to the letter. The COVID-19 outbreak has already reached every region of the world, which has caused the World Health Organization (WHO) to declare a public health emergency [1]. Because of the quick spread of the disease, there has been a noticeable slowdown in economic activity all across the world. The shutdown at the power plant has had a greater impact on the lives of a greater number of people than it has had on the economy. Because of the shockingly high number of fatalities, the economy has been in a state of crisis for some time now, and the unemployment rate is only going to continue to climb higher. Specifically, artificial intelligence is making a substantial contribution, which is contributing to the overall improvement of conditions at this moment. Not only is this method helpful for forecasting, but it also contributes to the diagnosis and treatment of patients. Its ability to fool humans into believing it is human grants it access to regions that are normally off-limits to people. Models that are based on artificial intelligence (AI) can help the economy recover by making it easier to develop skilled labour and deploy machine automation on a wider scale. The epidemic caused by COVID-19 has had an impact on practically all of the world's most significant corporations. In the year 2020, the virus that kills humans has caused problems for industry and trade. This encompasses the entire

Automated Multiclass Classification Using Deep Convolution Neural Network on Dermoscopy Images

Shaik Rasool

Assistant Professor
Department of CSE

Methodist College of Engineering and
Technology

Telangana, India.
shaikrasool@outlook.com

Uma N Dulhare

Professor and Head
Department of CS & AI

Muffakham Jha College of Engineering
and Technology

Telangana, India.
Prof.umadulhare@gmail.com

Mohammed Naseer Khan
Principal Software Engineer
Visual Technologies LLC

Dallas, Texas,
United States.
mohammednaseerkhan@outlook.com

Dr. Durgaprasad Gangodkar
Department of CSE

Graphic Era Deemed to be University
And Graphic Era Hill University

Dehradun, Uttarakhand, India.
Dr.gangodkar@geu.ac.in

Dr. Ajay Rana

Amity University
Greater Noida

Uttar Pradesh, India.
Ajay_rana@amity.edu

Ravi Kalra, Department of CSE
Lloyd Institute of Engineering and
Technology

Greater Noida, Uttar Pradesh, India.
Dean.engineering@liet.in

Abstract— Due to the nature of the surgery, treating skin tumours manually takes a long time and can only be done on one individual at a time. As a result, it is evident that computational and analytical methodologies are required for meaningful classification of skin lesions at various stages. We have demonstrated a fully automated method of classifying the wide variety of skin lesions that exist. The automatic dissection of skin lesions and their isolation are two of the most critical and interconnected difficulties in computer-assisted skin cancer detection. Although deep learning models see widespread use, they are typically developed to address only one problem, when it could be more efficient to address both simultaneously. In this research, we propose a model for detecting and labelling skin lesions that makes use of Bootstrapping Ensembles and Convolutional Neural Networks (BE-CNN). This theory was developed by the authors of the study. The CI-SN (Compute-Intensive Segmentation Network) is the backbone of this approach (improved-SN). However, the Compute-Intensive Segmentation Network can detect and categorise skin lesions by creating pre-bootstrapping uneven lesion coverings. The strategy's objective is for the arrangement and division networks to cooperate and learn from one another. To do this, a "bootstrapping" process is used. However, we suggest a novel use of segmentation networks to address issues stemming from both class and pixel variation. On the ISIC-HAM 10000 datasets, we find that the proposed BE-CNN model outperforms the function of separating skin lesions based on the current condition and stages techniques, with a mean accuracy of 92.67%. We reached this result after observing that the suggested model more effectively classified skin lesions into their respective stages than the prevalent condition and stages-based methods. The findings demonstrate that a continuous bootstrapping strategy can be used to partition and classify skin lesions in a connected model. Doing both at once like this would prove the point.

Keywords— Classification of Skin lesion, CNN - Convolutional Neural Network, Compute-Intensive Segmentation Network.

I. INTRODUCTION

The largest organ in the human body is the skin. Cancer of the skin arises when cells in the skin become disorganised and begin to multiply uncontrollably, putting the surrounding tissues at risk[9]. The vast majority of people who develop cancer do so on their skin, making it the most common type. The vast majority of people who struggle with skin conditions are unaware of the nature of their condition or the degree to which it manifests itself. One of the factors that contributes to the rapid progression of various skin diseases is the fact that their symptoms don't always present themselves right away. The average person does not have the level of knowledge required to make educated choices regarding their health and the medical care they receive. Dermatologists are medical practitioners who focus their training and expertise on skin disorders. Unfortunately, expensive laboratory tests may be required in order to properly diagnose and evaluate the severity of a skin condition. Dermatological technologies that are based on lasers and photonics have undergone significant advancements in recent years, which has allowed for faster and more accurate diagnosis and treatment of skin problems. Nevertheless, there is not a significant financial burden associated with this particular diagnosis. As a consequence of this, we offer a method of diagnosis that is predicated on the inspection of photographs. When trying to diagnose skin cancer, dermatologists and other medical experts frequently resort to the use of biopsies as a reliable diagnostic tool. It's possible that this is the best alternative, but I can't make any guarantees. The ABCDE rule [1] and the 7-point criteria [2] are also examples of additional screening methodologies.

However, in order for these therapies to be effective, it is vital to first consult with a dermatologist. In recent years [3, 4], dermatologists have shifted away from relying on alternative ways to identify skin cancer and now employ dermoscopy and microscopic pictures instead. Please be aware that the images have been drastically shrunk, and in order to view them, you will need a specialised micro camera.

Improving Multimodal Sentiment Analysis using Prediction-based Word Embeddings

¹T Praveen Kumar

Department of CSE

Methodist College of Engineering and Technology

Hyderabad, Telangana, India

pravinthumukunta@gmail.com

²B.Vishnu Vardhan

Department of CSE

JNTUH College of Manthani

Manthani, Telangana, India.

mailvishnuvardhan@gmail.com

Abstract- In the digital era, information in large amounts may be discovered in the form of reviews and writings of customers. People create reviews using only text or emojis that express the customer's thoughts or opinions. In most instances, user comments reflect their gut feelings about a product. A significant amount of value is extracted from these remarks by using sentiment analysis. The classification is one of the most pressing challenges in sentiment analysis which is our main agenda in this work. The accuracy is used as a performance evaluator and gives weightage to sentiments given in the form of emojis. A multimodal classification model is utilized here by considering both text and emojis for the final output. The comparative study is also done on the word embedding methods of the Word2Vec model. According to the findings of the experiments, the proposed system outperforms the sentiment analysis models, which considers only text for evaluation.

Keywords: Multimodal Sentiment Analysis, word embeddings: CBOW and Skipgram, word2vec, Machine Learning

I. INTRODUCTION

In the olden days before the internet people would go and seek opinions from friends or relatives to buy a product [4]. However, nowadays we are witnessing an explosive increase in information product reviews on various social media platforms, as a result of the extraordinary prominence of social media and the increase of usage of smartphones with advanced features. This type of multimodal corpus consists of either Aesthetic (picture), sound (speech), or transcribed verbal (text) data. Thus the opinion of others about a particular product will have a drastic effect on our decision-making process.

Mobile Apps like flip kart, amazon, e-commerce sites like e-bay, social media platforms like Facebook, WhatsApp, LinkedIn or Twitter, etc. help in getting the reviews of various online selling products [5-6]. The sentiment behind these reviews is analyzed by a technique of artificial intelligence which is called as sentiment analysis (SA). The customer's intention of the product is analyzed thoroughly and classified by using a scored word list as either neutral, positive, or negative. The four main types of SA are i) Graded Opinion Mining II) Emotion detection III) Aspect based SA IV) Intent analysis.

The combination of NLP and machine learning methods are used to model the complicated data. In sentiment analysis, there are three main types of algorithms automated systems, Rule-based systems, and hybrid systems. In our research, the SA is done on Text and emojis not

merely on only text. A good fusion of this text and emojis will help in extracting meaningful information. For both sellers and consumers, the necessity to analyze reviews in order to comprehend customer feedback has grown. However, due to a large number of reviews so it is not practical to read all of the feedback for a specific item. Using deep learning algorithms, this study will compare alternative analyses of sentiment methodologies for a corpus of mobile phone reviews of prediction of consumer happiness for a mobile phones review. So, in this paper, we worked on a multi-modal SA to analyze reviews on both text and emojis. This technique outperformed the existing methods by increasing in Accuracy of SA.

The paper's structure is Section II is a literature review. The proposed model for Multimodal Sentiment Analysis Using Word Embedding in Section III In Section IV the experiments are implemented described and the results. The conclusion and future work are discussed in Section V.

II. RELATED WORK

In this section, we discussed Multimodal sentiment analysis (MSA). This MSA, which combines verbal and nonverbal information such as visual and audio, has become a popular research topic. To enable multimodal shifting for presenting learning models, Wang et al. [1] constructed a repeating attended variation embedding network. Hazarika [2] proposed multisensory and modality-specific representations for multimodal representation learning. Liu et al. [3] presented a rank model for the multimodal fusion concept to reduce the cost of tensor-based techniques. Hellinger[8] used word embedding and PCA to identify the opinion of Bengali comments. Similar terms appear more frequently in the same context of Word2vec [9]. Opinion mining, an effective feature extraction method based on Word2Vec is proposed [10]. Through Word2Vec and an opinion lexical dictionary, the technique detects polarity clusters of terms in the lexicon. The polarity clusters are used to create the characteristics vector for each text which results in a lower-dimensional vector. Researchers in the field of opinion mining employ ML algorithms to increase accuracy. The research work [11] proposed a method for opinion mining on datasets of 400,000 customer reviews. Their results suggested the good accuracy on "Random Forest" with word embeddings equal to 90.6622%. In the realm of sentiment analysis utilizing deep learning methodologies, on the other hand, a data corpus of 10,662 records was used for opinion mining from the IMDb corpus [12]. In addition, another study used deep learning methods like the MLP,

1. IN202241025480 - MULTI SPEED DRONE FOR REMOTE FIELD MONITORING SYSTEM



National Biblio. Data Description Claims Documents

PermaLink Machine translation

Office
India

Title
[EN] Multi Speed Drone for Remote Field Monitoring System

Application Number
202241025480

Abstract

[EN] Proposed Invention related to a remote control video surveillance device that incorporates the video camera and various kinds of sensors that transmit sensed data to other computers through wireless Internet capabilities. The remote unit is equipped with a cellular telephone transceiver, allowing it to be utilized in distant places or on mobile platforms without any hard-wired cable connections. In this case, the remote unit serves as a video surveillance platform, communicating with the base station computer through the cellular network and then the Internet. The IP address of the remote device is dynamic, but the IP address of the base station computer is static. Using the Internet, user PCs may also log in to the remote unit and receive data. This is accomplished by connecting the base station to the remote unit.

Application Date
01.05.2022

Publication Number
202241025480

Publication Date
13.05.2022

Publication Kind
A

IPC
G08B H04N H04W

Applicants
Dr. J.Thomas Joseph Prakash
Mrs.S.Saranya
Amarendra Alluri
Dr. Ashok Kumar Koshariya
Mr Kannadasan B
Dr. AN.Sigappi
Dr. Syed Azahad
Mr. S.Premkumar

Inventors
Dr. J.Thomas Joseph Prakash
Mrs.S.Saranya
Amarendra Alluri
Dr. Ashok Kumar Koshariya
Mr Kannadasan B
Dr. AN.Sigappi
Dr. Syed Azahad
Mr. S.Premkumar



1. IN202241036113 - COMPUTER TECHNOLOGY BASED AUTOMOBILE DETECTION DEVICE AND METHOD THEREOF



National Biblio. Data Description Claims Documents

PermaLink Machine translation

Office
India

Title
[EN] COMPUTER TECHNOLOGY BASED AUTOMOBILE DETECTION DEVICE AND METHOD THEREOF

Application Number
202241036113

Abstract

[EN] Exemplary embodiments of the present disclosure are directed towards a computer technology based vehicle inspection and test device. The said device comprises a chassis and a host machine. The host machine comprises a rectangular top cover provided with an opening, a lower cover provided with a battery case, a touch screen whose shape is fitted to the opening, an electronic circuit unit comprising a central processing unit, a program storage which can be reprogrammed and a plurality of interfaces, and, a fixing rack on which the touch screen and the electronic circuit unit are fixed. Thus, the chronic status of manual work, examination and repair in the industry of automobile maintenance gradually progresses to the stage of computerization and automation.FIG.1

Application Date
23.06.2022

Publication Number
202241036113

Publication Date
22.07.2022

Publication Kind
A

IPC
G06Q G06F H05K G01M B60S

Applicants
Methodist College of Engineering and Techonology

Inventors
Dr. P Ravi Chander
Dr Lavanya Pamulaparty
Dr Azahad Syed
Dr. Bhukya Laxman
Dr.H.N Mohd Fakruddin
Mr. Y Madhu Maheswara Reddy
I Sowjanya



1. IN202241000502 - ARTIFICIAL INTELLIGENCE-BASED CANCER DIAGNOSIS AND TREATMENT BY USING NANO PARTICLES



National Biblio. Data Description Claims Documents

PermaLink Machine translation

Office

India

Application Number

202241000502

Application Date

05.01.2022

Publication Number

202241000502

Publication Date

21.01.2022

Publication Kind

A

IPC

G01N C12Q B82Y A61K

Applicants

MRS. DEVI P
 DR.R.SUBRAMANIYAN @ RAJA
 DR.K. BALASUBRAMANIAN
 N. PRABU SNAKAR
 SHAIKH ABDUL WAHEED
 DR. M.MALATHI
 R.SRIVEL
 DR. M.SARAVANAN
 Dr. AROKIARAJ DAVID
 DR Y. SEETHA MAHALAKSHMI
 MR. KAMJULA LAKSHMI KANTH REDDY
 DR. A. ARUN KUMAR

Inventors

MRS. DEVI P
 DR.R.SUBRAMANIYAN @ RAJA
 DR.K. BALASUBRAMANIAN
 N. PRABU SNAKAR
 SHAIKH ABDUL WAHEED
 DR. M.MALATHI
 R.SRIVEL
 DR. M.SARAVANAN
 Dr. AROKIARAJ DAVID
 DR Y. SEETHA MAHALAKSHMI
 MR. KAMJULA LAKSHMI KANTH REDDY
 DR. A. ARUN KUMAR

Title

[EN] ARTIFICIAL INTELLIGENCE-BASED CANCER DIAGNOSIS AND TREATMENT BY USING NANO PARTICLES

Abstract

[EN] Artificial intelligence-based cancer diagnosis and treatment by sing nano particles is the proposed invention that selectively targets cancerous cells, which results in more accurate diagnosis and early detection. The invention enables the visualization of cancer biomarkers that helps to identify the specific stages of cancer cells and thereby deciding upon treatments which targets to the death of cancer cells. The implementation of nano particles will help detect and diagnose cancer at molecular level by developing biomarkers.



1. IN202241005316 - MACHINE-LEARNING BASED SIZE SUGGESTION SYSTEMS AND METHODOLOGIES FOR CLOTHES E-COMMERCE



National Biblio. Data Description Claims Documents

PermaLink Machine translation

Office

India

Application Number

202241005316

Application Date

01.02.2022

Publication Number

202241005316

Publication Date

11.02.2022

Publication Kind

A

IPC

G06Q G06F

Applicants

PREETI C M
KARREPU SREEVEDA
KODUMURI VEERABHADRA RAO
D. RAMBABU
REDDEMMA YAGA
BHAGYASHREE C

Inventors

PREETI C M
KARREPU SREEVEDA
KODUMURI VEERABHADRA RAO
D. RAMBABU
REDDEMMA YAGA
BHAGYASHREE C

Title

[EN] MACHINE-LEARNING BASED SIZE SUGGESTION SYSTEMS AND METHODOLOGIES FOR CLOTHES E-COMMERCE

Abstract

[EN] MACHINE-LEARNING BASED SIZE SUGGESTION SYSTEMS AND METHODOLOGIES FOR CLOTHES E-COMMERCE Deliberated how to provide size information using methods, systems, and storage medium. A computer device may collect purchasing information connected with particular users in certain examples. Each individual user may be associated with at least one of a number of different user devices. Individual users may have purchased an item based on the purchase information. A subset of individual users may submit feedback information to the computing device in connection with the item. Based on the purchase information and the feedback information, the computer device may create size information for the item. A suggestion for the item might be generated by the computing equipment.

