Dr. MGR-JANAKI COLLEGE
OF ARTS & SCIENCE FOR WOMEN
SATHYABAMA MGR MALIGAI
11 & 13, Durgabai Deshmukh Road, RA Puram, Chennai - 28
An ISO 9001:2015 CERTIFIED INSTITUTION
Affiliated to the University of Madras

CRITERION 3

3.3 RESEARCH PUBLICATION & AWARDS

Dr. MGR-JANAKI COLLEGE
OF ARTS & SCIENCE FOR WOMEN
SATHYABAMA MGR MALIGAI
11 & 13, Durgabai Deshmukh Road, RA Puram, Chennai - 28
An ISO 9001:2015 CERTIFIED INSTITUTION
Affiliated to the University of Madras

CRITERION 3
3.3.1
Research Papers Published in
UGC Journals

Dr. MGR-JANAKI COLLEGE
OF ARTS & SCIENCE FOR WOMEN
SATHYABAMA MGR MALIGAI
11 & 13, Durgabai Deshmukh Road, RA Puram, Chennai - 28
An ISO 9001:2015 CERTIFIED INSTITUTION
Affiliated to the University of Madras

Verified and Certified Documents

Metric No: 3.3.1

Page No 8 to 22

Principal

PRINCIPAL
DR. MGR JANAKI COLLEGE OF
ARTS & SCIENCE FOR WOMEN
CHENNAI - 600 028.

DR. MGR JANAKI COLLEGE FOR WOMEN
CHENNAI - 28

Dr. MGR-JANAKI COLLEGE
OF ARTS & SCIENCE FOR WOMEN
SATHYABAMA MGR MALIGAI
11 & 13, Durgabai Deshmukh Road, RA Puram, Chennai - 28
An ISO 9001:2015 CERTIFIED INSTITUTION
Affiliated to the University of Madras

Journals

Dr. MGR-JANAKI COLLEGE
OF ARTS & SCIENCE FOR WOMEN
SATHYABAMA MGR MALIGAI
11 & 13, Durgabai Deshmukh Road, RA Puram, Chennai - 28
An ISO 9001:2015 CERTIFIED INSTITUTION
Affiliated to the University of Madras

Academic Year

2020-2021

S.NO	TITLE OF PAPER	NAME OF THE AUTHOR/S
1	IDENTIFICATION OF NOVEL BIOACTIVE MOLECULES FROM GARLIC BULBS: A SPECIAL EFFORT TO DETERMINE THE ANTICANCER POTENTIAL AGAINST LUNG CANCER WITH TARGETED DRUGS	R.PADMINI
2	MOLECULAR DOCKING STUDIES OF ORGANOSULFUR COMPOUNDS AND FLAVONOIDS OF ALLIUM SATIVUM AGAINST EGFR TO TREAT NON-SMALL CELL LUNG CANCER.	R.PADMINI
3	MYRICETIN: VERSATILE PLANT BASED FLAVONOID FOR CANCER TREATMENT BY INDUCING CELL CYCLE ARREST AND ROS-RELIANT MITOCHONDRIA-FACILITATED APOPTOSIS IN A549 LUNG CANCER CELLS AND IN SILICO PREDICTION. MOLECULAR AND CELLULAR BIOCHEMISTRY	R.PADMINI
4	”DECIPHERING POTENTIAL INHIBITORS TARGETING TH14 OF FUSARIUM SOLANI SP TO COMBAT FUNGAL KERATITIS: AN INTEGRATIVE APPROACH”	DEEPIKA LAKSHMI
5	BLOCKCHAIN SMART CONTRACTS ON IOT	E. KANIMOZHI
6	AN EMPIRICAL STUDY ON CONSTRUCTION OF NEURO EVOLUTIONARY ALGORITHM BASED ON MACHINE LEARNING FOR CROP YIELD PREDICTION	E. KANIMOZHI
7	AN EMPIRICAL STUDY ON MACHINE LEARNING ALGORITHM FOR PLANT DISEASE PREDICTION	E. KANIMOZHI
8	AN FOOD IMAGE PROCESSING	S.ANUSUYA
9	A REVIEW ON DETECTION OF MALADIES IN RETINAL BLOOD VESSELS USING IMAGE PROCESSING AND DATA MINING	L.POONGOTHAI
10	COLLATING THE EXACTNESS OF ROI EXTRACTION FOR A RETINAL DETACHED EYE	L.POONGOTHAI

11	SEGMENTATIONAL COLOR MAP ANALYSIS TO IDENTIFY RETINAL DETACHMENT	L. POONGOTHAI
12	BIGDATA BASED DISEASE PREDICTING SYSTEM	P.RENUKA
13	CLOUD DATA INTEGRITY SECURITY BY USING BLOCK CHAIN	K.GANGADEVI
14	ON APPLICATION OF DIFFERENTIAL SUBORDINATION FOR CARATHEODORY FUNCTIONS	F. AGNES S.J. LAVANYA, M.P. JEYARAMAN AND H. AAISHA FARZANA
15	ON CERTAIN GEOMETRIC PROPERTIES OF GENERALIZED POLYLOGARITHM FUNCTION	V. AGNES S.J. LAVANYA, M.P. JEYARAMAN AND H. AAISHA FARZANA

RAMASAMY MANIMEKALAI

Digitally signed by RAMASAMY MANIMEKALAI
Date: 2023.11.23 10:58:48 +05'30'

Saudi Journal of Biological Sciences 27 (2020) 3274–3289

Contents lists available at ScienceDirect

Saudi Journal of Biological Sciences

journal homepage: www.sciencedirect.com

Original article

Identification of novel bioactive molecules from garlic bulbs: A special effort to determine the anticancer potential against lung cancer with targeted drugs

R. Padmini [a,b], V. Uma Maheshwari [a], P. Saravanan [c], Keun Woo Lee [c], M. Razia [a,*], Mona S. Alwahibi [d], B. Ravindran [e], Mohamed Soliman Elshikh [d], Young Ock Kim [f], Hyungsuk Kim [g], Hak-Jae Kim [f,*]

[a] Department of Biotechnology, Mother Teresa Women's University, Kodaikanal, Tamil Nadu, India
[b] Department of Biochemistry & Bioinformatics, Dr. MGR Janaki College of Arts and Science, Chennai, Tamil Nadu, India
[c] Division of Life Science, Division of Applied Life Science (BK21 Plus), Research Institute of Natural Science (RINS), Gyeongsang National University (GNU), 501 Jinju-daero, Jinju 52828, Republic of Korea
[d] Department of Botany and Microbiology, College of Science, King Saud University, Riyadh 11451, Saudi Arabia
[e] Department of Environmental Energy and Engineering, Kyonggi UniversityYoungtong-Gu, Suwon, Gyeonggi-Do 16227, Republic of Korea
[f] Department of Clinical Pharmacology, College of Medicine, Soonchunhyang University, Cheonan, Republic of Korea
[g] Department of Rehabilitation Medicine of Korean Medicine, College of Korean Medicine, Kyung Hee University, Seoul 02447, Republic of Korea

ARTICLE INFO

Article history:
Received 7 August 2020
Revised 14 September 2020
Accepted 20 September 2020
Available online 26 September 2020

Keywords:
Docking
Garlic
Inhibitors
Lung cancer
Molecular dynamics simulations

ABSTRACT

Garlic (*Allium sativum* L.), is a predominant spice, which is used as an herbal medicine and flavoring agent, since ancient times. It has a rich source of various secondary metabolites such as flavonoids, terpenoids and alkaloids, which have various pharmacological properties. Garlic is used in the treatment of various ailments such as cancer, diabetes and cardiovascular diseases. The present study aims to explore the plausible mechanisms of the selected phytocompounds as potential inhibitors against the known drug targets of non-small-cell lung cancer (NSCLC). The phytocompounds of garlic were identified by gas chromatography-mass spectrometry (GC–MS) technique. Subsequently, the identified phytocompounds were subjected to molecular docking to predict the binding with the drug targets, epidermal growth factor receptor (EGFR), human epidermal growth factor receptor 2 (HER2), echinoderm microtubule-associated protein-like 4-anaplastic lymphoma kinase (EML4-ALK) and group IIa secretory phospholipase A2 (sPLA2-IIA). Molecular dynamics is used to predict the stability of the identified phytocompounds against NSCLC drug targets by refining the intermolecular interactions formed between them. Among the 12 phytocompounds of garlic, three compounds[1,4-dimethyl-7-(1-methylethyl)-2-azulenyl]phenyl methanone, 2,4-bis(1-phenylethyl)-phenol and 4,5–2 h-oxazole-5-one,4-[3,5-di-t-butyl-4-methoxyphe nyl] methylene-2-phenyl were identified as potential inhibitors, which might be suitable for targeting the different clinical forms of EGFR and dual inhibition of the studied drug targets to combat NSCLC. The result of this study suggest that these identified phytocompounds from garlic would serve as promising leads for the development of lead molecules to design new multi-targeting drugs to address the different clinical forms of NSCLC.

1. Introduction

The most common cause of neoplasia-related deaths that occur worldwide is lung cancer (Bankovic et al., 2010; Al-Dhabi et al., 2015). Lung cancer, is a malignant tumour characterized by abnormal cell growth in the tissue lining of the lung and is categorized into Non-small cell lung cancer (NSCLC) and small cell lung cancer (SCLC) depending upon its cell type. NSCLC signifies 80% of all lung cancers, with adenocarcinoma accounting for 40% of all cases (Rom et al., 2000). Mutator phenotype and induction of genomic

* Corresponding authors.
E-mail address: hak3962@sch.ac.kr (H.-J. Kim).
Peer review under responsibility of King Saud University.

Production and hosting by Elsevier

https://doi.org/10.1016/j.sjbs.2020.09.041
1319-562X/

Molecular Docking Studies of Bioactive Compounds from *Allium sativum* Against EML4-ALK Receptor

Padmini R[1, 2], Sitrarasi R[1], Razia M[1]*

[1]Department of Biotechnology, Mother Teresa Women's University, Kodaikanal, Tamil Nadu

[2]Department of Biochemistry & Bioinformatics, Dr. MGR Janaki College of Arts and Science, Chennai, Tamil Nadu, India

*Corresponding Author E-mail: **razia581@gmail.com**

ABSTRACT:

Lung cancer is the common cancer which leads to death in all developed countries and it is a malignant lung tumor characterized by uncontrolled cell growth in the tissues of the lung. Non-Small Cell Lung Cancer (NSCLC) which is a form of lung cancer, accounts for approximately 80% of all lung cancer cases in India. EML4-ALK, a fusion protein plays a major role in provoking lung cancer. Knowledge of the three-dimensional structure paves the way to understand the mechanism of protein and conduct structure based drug design. In order to develop 3D structure of EML4-ALK protein, homology modelling approach using the tool Modeller 9v14 was utilized. Garlic (*Allium sativum*) is a vegetable that belongs to allium family, is capable of allowing cancer cell death normally, the process called as apoptosis. The medicinal effects of garlic can be utilized for the prevention and cure of cancer. Molecular docking studies of the modelled EML4-ALK target protein with bioactive compounds of *Allium sativum* using AutoDock was performed. These computational studies will provide an insight of potential inhibitors against lung cancer.

KEYWORDS: Lung cancer, NSCLC, EML4-ALK, Auto Dock.

Molecular and Cellular Biochemistry
https://doi.org/10.1007/s11010-020-03885-6

Myricetin: versatile plant based flavonoid for cancer treatment by inducing cell cycle arrest and ROS–reliant mitochondria-facilitated apoptosis in A549 lung cancer cells and in silico prediction

Padmini Rajendran[1,2] · Uma Maheshwari[1] · Arun Muthukrishnan[3] · Razia Muthuswamy[1] · Krishnan Anand[4] · Balasubramani Ravindran[5] · Premnath Dhanaraj[6] · Balasubramaninan Balamuralikrishnan[7] · Soon Woong Chang[5] · Woo Jin Chung[5]

Received: 10 May 2020 / Accepted: 14 August 2020

Abstract

Myricetin is categorized under the secondary metabolite flavonoid which includes a diverse range of consumable plant parts, and it has a potential against several classes of cancer including cancers and tumors. In the present study, the anticancer potential of the unique flavonoid-myricetin in A549 lung cancer cells was evaluated. Among different doses of myricetin, 73 µg/ml was more effective to prevent the cancer cell growth. It also promoted sub-G1 phase aggregation of cells and a equivalent decrease in the fraction of cells entering the S and subsequent phase which indicates apoptotic cell death. Myricetin generated enormous free radicals and, altered the potential of mitochondrial membrane in A549 cells as paralleled to untreated cells. In addition, myricetin treatment intensified the expression of P53 and relegated the expression of EGFR in A549 cells. These results suggested that myricetin exhibits cytotoxic potential by arresting the progression of cell cycle and ROS–dependent mitochondria-mediated mortality in cancer A549 lung cancer cells and it would be useful to develop as a drug candidate for lung cancer therapeutics. In silico experiments were carried out against human EGFR and P53 tumor suppressor protein to gain more insights into the binding mode of the myricetin may act as significant potential for anticancer therapy.

Keywords Myricetin · A549 cells · Apoptosis · MMP · P53 activation · EGFR · Molecular docking

Introduction

Cancer is a complex disease due to unregulated cell growth and it is the foremost cause of mortality globally after cardiovascular disease [1]. Globally, Cancer incidence is ranked as the prominent cause of death and it is solely responsible as an obstacle for an increased life span of human beings. In the year 2018, 18.1 million cancer incidents were recognized and 9.6 million cancer cases lead to death. Lung cancer is one among the common cancers, which accounts for approximately 19% of death all over the world when compared with other type of cancer such as stomach cancer, colorectal cancer, hepatic cancer, and mammary gland cancer. The mortality and incidence of lung cancer in India has been increased

✉ Razia Muthuswamy
razia581@gmail.com

✉ Krishnan Anand
organicanand@gmail.com

[1] Department of Biotechnology, Mother Teresa Women's University, Kodaikanal, Tamil Nadu, India

[2] Department of Biochemistry & Bioinformatics, Dr. MGR Janaki College of Arts and Science, Chennai, TamilNadu, India

[3] Department of Biotechnology, Bharathiar University, Coimbatore, Tamil Nadu, India

[4] Department of Chemical Pathology, School of Pathology, Faculty of Health Sciences and National Health Laboratory Service, University of the Free State, Bloemfontein, South Africa

[5] Department of Environmental Energy Engineering, Kyonggi University, Suwon, South Korea

[6] Department of Biotechnology, School of Agriculture and Biosciences, Karunya Institute of Technology and Science, Karunya Nagar, Coimbatore 641114, India

[7] Department of Food Science and Biotechnology, Sejong University, Seoul, South Korea

Published online: 26 August 2020

Computational Biology and Chemistry 88 (2020) 107350

Contents lists available at ScienceDirect

Computational Biology and Chemistry

journal homepage: www.elsevier.com/locate/cbac

Deciphering potential inhibitors targeting THI4 of *Fusarium solani sp.* to combat fungal keratitis: An integrative computational approach

Hemavathy Nagarajan[a], P. Deepika Lakshmi[b], Umashankar Vetrivel[a,c,*]

[a] Centre for Bioinformatics, Kamalnayan Bajaj Institute for Research in Vision and Ophthalmology, Vision Research Foundation, Sankara Nethralaya, Chennai, 600 006, Tamil Nadu, India

[b] Dr. MGR Janaki College of Arts and Science for Women, No.11&13, Dr. Durgabai Deshmukh road, Raja Annamalai Puram, Chennai, 600 028, India

[c] National Institute of Traditional Medicine, Indian Council of Medical Research, Department of Health Research (Govt. of India), Belagavi, 590010, India

ARTICLE INFO

Keywords:
Mycotic keratitis
Fusarium solani
THI4
Molecular refinement
Molecular dynamics
HTVS
MMGBSA

ABSTRACT

Mycotic keratitis is a fungal infection of corneal epithelium. It is more common in tropical and subtropical countries and is one of the leading causes of blindness. Many of the antifungal drugs have been less effective in treating this condition and certain drugs which are efficient and yet limited in use due to its extreme side effects. Hence, in this study an attempt is made to identify potential and least toxic antifungal inhibitors that targets thiamine thiazole synthase, a novel target for suppressing *Fusarium solani subsp.pisi (Nectria haematococca MPVI)* infections, to combat mycotic keratitis. Integrative computational approaches involving model refinement, molecular dynamics simulation and High throughput virtual screening (HTVS) were applied through integrative multi precision mode in order to identify potential inhibitors. Moreover, machine learning approach was also implemented to prioritize potential inhibitors that are ophthalmic adaptive, as well as antifungal molecule. From the NCI and Maybridge datasets, for HTVS only 209,872 compounds that surpassed ligand property filtration were considered, which resulted in 209 compounds after XP docking. Among the top 5 compounds from XP docking, on cumulative analysis only 2-(1-hydroxyethyl)-1,3-thiazole-4-carboxamide was prioritized as the most potential hit, as it showed higher order of significance in terms of binding affinity, structural stability and therapeutic relevance for the treatment of Mycotic keratitis. Thus, widening the scope for novel antifungal therapy in ophthalmic infections.

1. Introduction

Keratitis is an inflammation that occurs in cornea, a transparent anterior region of eye. Keratitis is caused by any injury, trauma or allergies (dust particles) in the corneal epithelium (Badawi et al., 2017; Gupta et al., 2013). Microbial keratitis caused by microbes are vision threatening and may cause pain, redness, irritation and sensitivity towards light. The causative agents for microbial keratitis are bacteria, fungi, virus, and other parasites (Bartimote et al., 2019; Bindu, 2008). Among these, fungal keratitis (also known as mycotic keratitis or keratomycosis) accounts 59.09 % approximately, as it affects cornea, stroma, endothelium and anterior chamber (Mohod et al., 2019). Major Mycotic keratitis causing filamentous fungi (70 %) include *Aspergillus* (27–64 %) and *Fusarium* species (6–32 %), while *Fusarium* was the most common isolate from South India (Tilak et al., 2010) (Bindu, 2008; Punia et al., 2014; Wu et al., 2016). Most of the medical therapies are ineffective in treating mycotic infections (Maharana et al., 2016; Thomas and Kaliamurthy, 2013). Untreated keratitis leads to the development of endophthalmitis and loss of vision (Punia et al., 2014). Antifungal drugs which are in current practice and are commercially available have some side effects such as corneal toxicity, irritation, etc (Müller et al., 2013; Nett and Andes, 2016). Hence, there is a need to determine novel therapeutic drugs which are effective against fungal keratitis and inhibit the *Fusarium sp.* specifically with minimal side effects in humans.

Immune system plays an essential role in the pathogenesis of fungal keratitis and specifically corneal epithelium contributes to innate immunity which is the first line of defence. When ocular surface is damaged due to injury or trauma, it results in the invasion of microorganisms to track deeper into underlying layers causing mycotic keratitis (Thomas and Kaliamurthy, 2013; Wu et al., 2016). This invasion leads to innate or adaptive immune mediated inflammation,

* Corresponding author at: Centre for Bioinformatics, Kamalnayan Bajaj Institute for Research in Vision and Ophthalmology, Vision Research Foundation, Sankara Nethralaya, Chennai 600 006, Tamil Nadu, India.
E-mail address: drvus@snmail.org (U. Vetrivel).

https://doi.org/10.1016/j.compbiolchem.2020.107350
Received 15 April 2020; Received in revised form 23 July 2020; Accepted 28 July 2020
Available online 02 August 2020

International Journal of Recent Technology and Engineering (IJRTE)
ISSN: 2277-3878, Volume-8, Issue-2S11, September 2019

Blockchain Smart Contracts on IOT

E. Kanimozhi, D. Akila

Abstract--- Blockchain smart contracts are PC programs that can be adequately executed by an arrangement of ordinarily questioning center points, without the need of an external trusted in power. Since shrewd contracts handle and trade assets of huge regard, other than their correct execution it is also imperative that their use is secure against ambushes which go for taking or modifying the favorable circumstances. Ethereum, the most eminent and used structure for sharp contracts up to this point. It analyze the security vulnerabilities of Ethereum smart contracts, giving a logical order of customary programming traps which may incite vulnerabilities and exhibit a movement of attacks which misuse these vulnerabilities, empowering a foe to take money or cause other mischief.

Keywords--- Blockchain, Ethereum, Internet of Things, Assention Convention.

I. INTRODUCTION

Blockchain as the word alludes implies a chain of Blocks. Blockchain implies having various squares fastened together and each square stores exchanges such that it is absurd to expect to change these exchanges. A Blockchain is a connected rundown of records, called obstructs, with each square being anchored by means of encryption. It was originally developed as a major aspect of the Bitcoin digital money all together to maintain a budgetary freely unquestionable record. The Blockchain can be thought of as a singleton state-machine that can change between states through cryptographically-anchored exchanges.

Blockchain one of a kind is the manner in which these segments work and associate with one another. A portion of the critical Ethereum segments are Ethereum virtual machine, Miner, Blocks, Transactions, Consensus calculation, Accounts, Smart contracts, mining hubs, Ether and Gas.

A Blockchain is the structure of data that addresses a cash related record entry, or a record of a trade. Each trade done cautiously set apart to ensure its validity and that no one can changes it, so it record itself and its present trades inside it are believed to be of high uprightness. The Blockchain is a mixed, flowed database that records data, or in that capacity it is an automated record of any trades, contracts - that ought to be independently recorded. One of the key features of Blockchain is this electronic record is accessible over a couple a colossal number of PC and will without a doubt be kept in a single place [1].

Blockchain can be actualized through P2P n/w, Cryptography, Digital marks, Nodes, Hashing, Consensus conventions, Byzantine Fault Tolerance, Proof of Stake, Delegated Proof of Stake (DPoS),Proof of Work and Mining.

In a P2P organize, the customer uses and gives the foundation of the framework meanwhile, in spite of the way that giving the benefits is totally purposeful. Every companion (a "peer" being a PC structure on the framework) is seen as proportional and are by and large implied as centers A friend makes a bit of figuring assets, for example, circle collecting, managing force or system data trade limit, plainly accessible to different people denied of the stipulation for any focal coordination by servers or firm has.

Indeed, even with each center point being identical, through going up against various occupations by the blockchain [1]bionetwork, for instance, inspite of an excavator or a "full core interest". By restraint of a full center, the whole blockchain is copied onto a lone device, while the contraption is associated with the framework. This gathers the informational index away on a blockchain can't be lost or squashed in light of the path that to do everything considered would mean pounding every single full spotlight point on the framework. Thusly, up to a singular center point with a copy of a blockchain exists; most of the records will remain immaculate, giving the probability to change that arrange.

Cryptography is the strategy for camouflaging and uncovering, also called scrambling and unscrambling, data through complex arithmetic. This implies the data must be seen by the proposed beneficiaries and no one else. The strategy includes taking decoded information, for example, a bit of content, and encoding it utilizing a numerical calculation, known as a figure. It makes a cipher text, a touch of data that is completely vain and silly until the minute that it is unscrambled. This method for encryption is known as symmetric-key cryptography.

Motorized etchings were one of the central parts of worthing the security and uprightness of the data that is recorded onto a blockchain. They are a standard bit of most blockchain traditions, in a general sense used for verifies trades and squares of trades, trades of checked information, programming scattering, get the board and whatever unmistakable conditions . where perceiving and keeping any outer altering is essential. Propelled marks utilize uneven cryptography, inferring that information can be bestowed to anyone, utilizing an open key.

An inside point can be any special electronic contraption, including a PC, telephone or even a printer, as long as it is associated with the web and in that limit has an IP address. The action of a middle point is to help the system by keeping up a duplicate of a blockchain and, from time to time, to process exchanges. Focus focuses are as frequently as conceivable composed in the structure of trees, known as coordinated trees.

Manuscript received September 16, 2019.

E. Kanimozhi, Ph.D. Research Scholar, Department of Computer Science, School of Computing Sciences, Vels Institute of Science, Technology & Advanced Studies (VISTAS), Chennai, India. (e-mail: kanimozhi135@gmail.com)

Dr.D. Akila, Associate Professor, Department of Information Technology, School of Computing Sciences, Vels Institute of Science, Technology & Advanced Studies (VISTAS), Chennai, India. (e-mail: akiindia@yahoo.com)

An Empirical Study on Neuroevolutional Algorithm Based on Machine Learning for Crop Yield Prediction

E. Kanimozhi and D. Akila

Abstract Machine learning has been come out with high performance computation power leads to create a great prospect in multi-disciplinary domain. Here, we present a novel machine learning method for predicting crop yield. The classification technique using machine learning algorithm demonstrated the performance improvement in prediction of crop yield. It depends on the factors of weather which have relationship with climate change data, soil of that area, and water irrigations. Here, we have illustrated an approach of implementing neuroevolution model based on ANN for predicting wheat crop yield. Crop yield prediction at different months is considered from June to September; the yields predictions are computed based on weather and fertilizer utilized data. A major improvement in the prediction ability is observed that yield diverge as for the season changes based on weather data. Therefore, the result of the proposed model assists in decision making in advance for planting wheat crop. The outcomes are more functional for decision making as well as in transplantation of wheat in advance with various farm activities throughout various stages of the wheat crop growing. Also, the same model can also be utilized for predicting various agricultural data such as disease prediction and weather prediction.

Keywords Neuroevolution · Prediction · Crop yield · Artificial neural network

1 Introduction

The idea of using genetic algorithm that is evolving is called "Neuroevolution." Neuroevolution algorithms are mainly utilized in analyzing network topology; neuroevolution algorithm can obtain optimal solution, and it can be used for prediction of crop yield. In India, the major part of agriculture falls in cultivation of wheat and

E. Kanimozhi (✉)
Department of Computer Science, School of Computing Sciences, Vels Institute of Science, Technology & Advanced Studies (VISTAS), Chennai, India

D. Akila
Department of Information Technology, School of Computing Sciences, Vels Institute of Science, Technology & Advanced Studies (VISTAS), Chennai, India

S.-L. Peng et al. (eds.), *Intelligent Computing and Innovation on Data Science*,
Lecture Notes in Networks and Systems 118,
https://doi.org/10.1007/978-981-15-3284-9_13

AN EMPIRICAL STUDY ON MACHINE LEARNING ALGORITHM FOR PLANT DISEASE PREDICTION

E.Kanimozhi Ph.D. Research Scholar,

Department of Computer Science, School of Computing Sciences,

Vels Institute of Science, Technology & Advanced Studies (VISTAS), Chennai, India.

Kanimozhi135@gmail.com

,Dr.D.Akila Associate Professor,

Department of Information Technology, School of Computing Sciences,

Vels Institute of Science, Technology & Advanced Studies (VISTAS), Chennai, India

akiindia@yahoo.com

Abstract

In this study, a neuro evolution algorithm has been developed for predicting various diseases in plants. The machine learning algorithms supports various classification technique that can be demonstrated for the performance improvement in plant disease prediction. prediction of disease depends on the weather factors which have relationship with climate change data, soil of that area. Here we have illustrated an approach of implementing neuroevolution model based on ANN for predicting various plant diseases. Various cause and the type of disease that can affect different plants during different season are predicted. Therefore the result of the proposed model assist in decision making in advance in precaution taking in disease that may affect plant. The outcomes are useful for taking decisions well in advance for disease avoidance in plants as well as various farm activities throughout various stages, it also uses the same model that can be utilized for predicting various agricultural data such as yield prediction and weather prediction.

Key words: Neuroevolution, prediction, Artificial Neural Network.

1. Introduction

An agriculture is a regional business that is hard to differentiate the disease that affects the plant at the time of harvesting. This paper focuses on the objective to discriminate the plant that are diseased by inspecting its morphology using machine learning algorithm. The food production

AN FOOD IMAGE PROCESSING SYSTEM: A SURVEY

S.Anusuya[1], Dr. K. Sharmila [2]
[1]Research scholar (VISTAS) &Assistant Professor, Dr.MGR Janaki College for women, Chennai.
Anusuya21sekaran@gmail.com
[2]Research Advisor and Associate Professor, VISTAS, Chennai.
sharmila.scs@velsuniv.ac.in

Abstract

The entire human community is more inquisitive about having lots of meals but their awareness towards food plan is likewise high. They are showing special care approximately in their consumption and much inquisitive about knowing the hidden dietary value in the meals their consumption. Due to the developing problem of continual illnesses and different health issues associated to weight loss program, there's a need to develop correct methods to estimate an people's food and energy intake. In particular, accurate food portion estimation is tough given that the technique of food preparation and intake impose massive variant on food shapes and appearance. Image processing is the method to beautify the input photograph to offer a clearer data. This work examined varied progress created inside the discipline of meals photograph processing and listed out the open demanding situations in enforcing such algorithms inside the blended foods.

Keywords— Image Processing, Food product recognition, Mixed food.

I. Introduction;

Food is one of the important components of our life. Records of what we eat is essential for our health care. In recent year, healthy is a topic that people concern. It is obviously that eating the food with high amount of calories cause several problems to our health [3]. Recording the amount of calories of the food intake in each meal is one of the stretchy to solve such problem. Although the people can record their meal and discuss with doctors or experts, it is not so convenient and they cannot know the amount of calories before the meal. Nowadays, with easy access to internet, food is delivered at our doorsteps just on the click of a button

A Review On Detection Of Maladies In Retinal Blood Vessels Using Image Processing And Data Mining

L.Poongothai , Dr.K.Sharmila

Abstract: In todays world human are full of varied diseases that cause injury of some or the opposite piece which degrades their operating speed. There are several eye conditions and sickness that may affects human eye which has eye disease, Cataract, Diabetic Retinopathy, and lots of alternative vision threatening diseases. It's become imperative to seek out either solutions to those diseases or observe them throughout early stages in order that they'll be prevented or cured. Blood vessels, one among the foremost important retinal anatomical structures are analyzed for identification of the many diseases. Retinal anatomical structure pictures are the foremost supply for ophthalmologists in segmenting the anatomical structures of the tissue layer viz. blood vessels, optic disc, macula and fovea centralis to spot eye maladies associated with tissue layer. This work examined varied progress created within the field digital image process and data processing formulas and listed out the open challenges in victimization such algorithm in the Indian medical knowledge set.

Keywords: Retina, Blood Vessels, Digital Image Processing, Data Mining

I. INTRODUCTION

Lots of individuals in rural and semi urban areas get suffered from eye diseases like Diabetic Retinopathy, Glaucoma; Age primarily based Macular Degradation and etc. machine techniques have nice impact within the field of drugs and Biology. These techniques facilitate the medical practitioners to diagnose any abnormality ahead and supply fruitful treatment. Retinal image analysis aid the ophthalmologists in detecting abnormalities in the retinal structures namely optic disc, blood vessels, macula and fovea thus diagnosing sight threatening retinal disease. Globally, it's calculable that a minimum of a pair of 2.2 billion individuals have a vision impairment or visual impairment, of whom a minimum of one billion have a vision impairment that would are prevented or has nonetheless to be self-addressed. The leading causes of vision impairment are

- uncorrected refractive errors
- cataract
- age-related degeneration
- glaucoma
- diabetic retinopathy
- Corneal opacity
- trachoma.

In this paper, surveyed the applying of assorted image process and data mining techniques used for detection of eye diseases.

A. IMAGE PROCESSING

Image processing is a method to perform some operations on an image, in order to get an enhanced image or to extract some useful information from it. It is a type of signal processing in which input is an image and output may be image or characteristics or features associated with that image.Maintaining the Integrity of the Specifications.

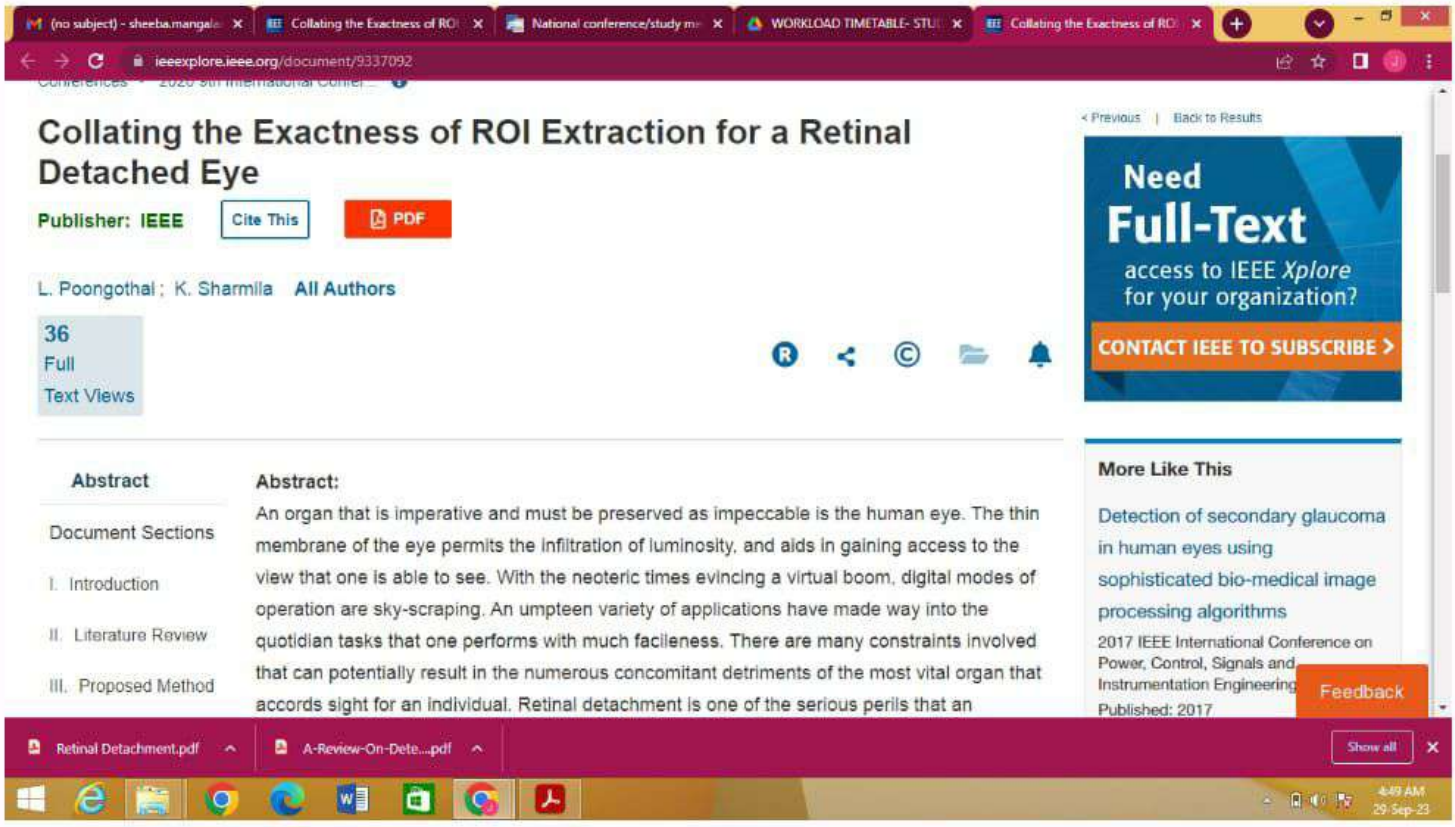
B. MEDICAL IMAGE PROCESSING

To perform the medical image processing and disease detection, a sequence of image processing operations are required to improve quality of acquired image and to perform the detection.

II. DATA MINING

Data mining is the core step, which has resulted in the discovery of hidden but useful knowledge from massive databases. “it is the non-trivial extraction of previously unknown and useful information about data”. The two primary goals of data mining are prediction and description.

- Prediction involves some variables or fields in the data set to predict unknown or future values of other variables of interest.
- Description focuses on finding patterns describing the data that can be interpreted by humans.


(no subject) - sheeba.mangala
Collating the Exactness of ROI
National conference/study ma
WORKLOAD TIMETABLE- STU
Collating the Exactness of ROI
ieeexplore.ieee.org/document/9337092
Collating the Exactness of ROI Extraction for a Retinal Detached Eye
Publisher: IEEE
Cite This
PDF
L. Poongothai ; K. Sharmila All Authors
36 Full Text Views
< Previous | Back to Results
Need Full-Text access to IEEE Xplore for your organization?
CONTACT IEEE TO SUBSCRIBE >
Abstract
Document Sections
I. Introduction
II. Literature Review
III. Proposed Method
Abstract:
An organ that is imperative and must be preserved as impeccable is the human eye. The thin membrane of the eye permits the infiltration of luminosity, and aids in gaining access to the view that one is able to see. With the neoteric times evincing a virtual boom, digital modes of operation are sky-scraping. An umpteen variety of applications have made way into the quotidian tasks that one performs with much facileness. There are many constraints involved that can potentially result in the numerous concomitant detriments of the most vital organ that accords sight for an individual. Retinal detachment is one of the serious perils that an
More Like This
Detection of secondary glaucoma in human eyes using sophisticated bio-medical image processing algorithms
2017 IEEE International Conference on Power, Control, Signals and Instrumentation Engineering
Published: 2017
Feedback
Retinal Detachment.pdf
A-Review-On-Dete....pdf
Show all
4:49 AM
29-Sep-23

Segmentational color map analysis to identify retinal detachment

L. Poongothai[1], Dr. K. Sharmila[2]

[1]Research Scholar, Department of Computer Science, VISTAS & Assistant Professor, Department of Computer Science Dr.MGR Janaki College for Women, Chennai, India.
[2]Associate Professor, Department of Computer Science, VISTAS, Chennai, India.

Abstract: The recent perilous times entails the importance of good health for humans. This can be pertaining the maintenance of good health in various organs of the human body. With the increase of digital platforms, and the necessity to stay longer hours with gadgets and electronic devices, the human eye takes a toll in terms of absorbing radiations that maybe harmful. An imperative check of the eye is essential from time to time, as the luminous membrane that aids in vision needs to hold firm to the various components within itself. Although there are various treatments associated with the detection of eye detriments, several gremlins tend to loom at large. These eye diseases can arise from numerous reasons ranging from genetic disorders to accidents and vision loss due to stimulated injuries, infections and dysfunctional development of tissues/cells/nerves within the eye. Retinal detachment (RD) is one of the profound problems that persist amongst many individuals scaling over a diverse range of ages. The risk in relevance to untreated detachment of the eye leads to purblind and sometimes complete loss of vision. The previous paper concerning retinal detachment of human eye has focused on various algorithmic and post-processing approaches, but failed to identify the origination and symptoms that could aid in meticulous diagnosis. The indagation in this paper pivots on the unsheathing of attributes that explicates the disassociation of the retina from the underlying layers of the eye using the fundus image with cost-effectiveness and swifter analysis. An important characteristic that is emphasized in this study is the segmentation of eye floaters in the vitreous fluid of the eye. These eye floaters are color mapped to identify the presence of detached tissues in the eye. The histogram analysis using the grayscale thresholding value further aids in providing a detailed distinction of the normal eye from the detached eye. The simulations are carried out in MATLAB, and the results have been obtained successfully.

International Journal of Advanced Science and Technology
Vol. 29, No. 12s, (2020), pp. 2712-2718

BIGDATA BASED DISEASE PREDICTING SYSTEM

P.RENUKA, Dr. B.BOOBA
Research Scholar, VISTAS, Vels University, Chennai
Professor, Department of CSE, VISTAS, Vels University, Chennai
renuka.paramasivam@gmail.com, boobarajashekar@gmail.com

Abstract

With the increase in population, diseases in human beings have become a major problem. This reduces their expectations in the current scenario. There is a major difficulty in diagnosing the diseases that affects them. But, in the modern world, this has been made possible and easier with the help of latest techniques and well proposed algorithms. These techniques and algorithms clusters the disease based on the available datasets.

In this, we have proposed a system which predicts the diseases faster and accurate. This research can be implemented in two levels. In the first level of implementation, we planned to increase the speed of the analysis process and providing security to the patient's record. Big data technology is used to increase the speed in analyzing the disease. Along with this, HDFS and Mapreducer frameworks are used for faster data processing. In this same level, we use Homomorphic encryption algorithm in order to protect patient's record from unauthorized access. In the second level of implementation, we are able to achieve "accuracy" in predicting the appropriate disease by using naïve Bayes classification technique.

Keywords: *Disease, Big data technique, HDFS, Mapreducer, Homomorphic encryption, naïve Bayes classification*

1. Introduction

The Modern world has been made digitalized due to a lot more new technologies which has made everything easier and faster to the human being. The impossibilities that has been considered in the past have been made possible due to these kind of modern digital technology. As generation passes the improvement in the technology has seen in an exponential way. For example consider a furniture production. It started from hand tools to machine carving and assembling which made the production faster and meet all the user demands.

Medical world has come through a lot more disease and diagnosis techniques. Doctors and Researchers has evolved with large need in the medical field. The involvement of the modern technology in the medical field has made it to achieve a lot more impossibilities in a faster and easier way.

Disease diagnosis is a major problem in the medical field since it involves lot more time consuming procedures. These delays the act of remedy on the disease affected. This problem has been met with the modern technologies for finding a predicting system that can work accurately and faster in the diagnosis of the disease.

Large dataset plays a vital role in the digitalized environment for any systems that works on predicting anything. The involvement of large dataset increases the time.

Big data which is a combined technology of the Hadoop framework and Mapreducer framework made the researchers to meet the time consumption problem. Dataset with a size of terabyte to petabytes can be used in the systems that involves the big data technology since it reduces the time for processing the data in a higher level.

It has three V's namely, Volume, Variety and Velocity. The size of the data i.e. the amount of data involved in the work is referred as volume. The versatile types of data involved in the work is referred as variety and finally the speed of the data processing in the work is referred as velocity.

JOURNAL OF CRITICAL REVIEWS

ISSN- 2394-5125 VOL 7, ISSUE 08, 2020

Review Article

CLOUD DATA INTEGRITY SECURITY BY USING BLOCK CHAIN

[1]K. Ganga Devi, [2]Dr R. Renuga Devi

[1] Research Scholar, Vels Institute of Science, Technology & Advanced Studies (VISTAS)
[2]Assistant Professor, Vels Institute of Science, Technology & Advanced Studies (VISTAS),
*Email: [1]seenuganga@yahoo.in, [2]nicrdevi@gmail.com

Received: 10 Aug 2019 Revised and Accepted: 26 Oct 2019

ABSTRACT

The cloud data services, it is commonplace for data to be not only stored in the cloud, but also shared across multiple users. Unfortunately, the integrity of cloud data is subject to skepticism due to the existence of hardware/software failures and human errors. Several mechanisms have been designed to allow both data owners and public verifiers to efficiently audit cloud data integrity without retrieving the entire data from the cloud server. Public auditing on the integrity of shared data with these existing mechanisms will inevitably reveal confidential information.

Cloud Computing has been envisioned as the next-generation architecture of IT Enterprise. It moves the application software and databases to the centralized large data centers, where the management of the data and services may not be fully trustworthy. This work studies the problem of ensuring the integrity of data storage in Cloud Computing. In particular, we consider the task of allowing a threshold proxy re-encryption, on behalf of the cloud client, to verify the integrity of the dynamic data stored in the cloud. While prior works on ensuring remote data integrity often lacks the support of either public Audit ability or dynamic data operations, this paper achieves both..

Keywords: Cloud computing, Security, Block chain, Data Integrity.

DOI: http://dx.doi.org/10.22159/jcr.07.01.01

INTRODUCTION

Distributed computing has been envisioned as theaccompanying creation information development (IT) plan for endeavors, due to its broad summary of unparalleled inclinations in the IT history: on-ask for self-advantage, inescapable framework get to, zone self-choosing resource pooling, quick resource adaptability, use based assessing and transference of peril.

As an aggravating development with huge consequences, distributed computing is changing the specific method for how associations use information advancement. One fundamental piece of this standpoint changing is that data are being united. From customers' view, including together individuals and IT tries, securing data remotely to the in a versatile on-ask for strategy bring engaging focal points: landing of the weight for storage space organization, vast data access with put self-sufficiency, and avoidance of advantages costs on hardware, programming, and staff frameworks of help, etcetera

While distributed computing make these compensation more captivating than some other time in ongoing memory, it also passes on new and testing security risks to customers' outsourced data. As organization providers (CSP) are part administrative components, data outsourcing is truly surrendering customer's lost control more than the fate of their data. As an issue of first significance, in spite of the way that the structures are altogether more powerful and trustworthy than individual enlisting devices, they are still before the broad assortment of both inside and outside risks for data respectability.

Blockchain, sometimes referred to as Distributed Ledger Technology (DLT), makes the history of any digital asset unalterable and transparent through the use of decentralization and cryptographic hashing.

A simple analogy for understanding blockchain technology is a Google Doc. When we create a document and share it with a group of people, the document is distributed instead of copied or transferred. This creates a decentralized distribution chain that gives everyone access to the document at the same time. No one is locked out awaiting changes from another party, while all modifications to the doc are being recorded in real-time, making changes completely transparent.

Blockchain consists of three important concepts: blocks, nodes and miners.

A. Blocks

Every chain consists of multiple blocks and each block has three basic elements:

- The data in the block.
- A 32-bit whole number called a nonce.

The nonce is randomly generated when a block is created, which then generates a block header hash.

The hash is a 256-bit number wedded to the nonce. It must start with a huge number of zeroes (i.e., be extremely small).

When the first block of a chain is created, a nonce generates the cryptographic hash. The data in the block is considered signed and forever tied to the nonce and hash unless it is mined.

B. Miners

Miners create new blocks on the chain through a process called mining. In a blockchain every block has its own unique nonce and hash, but also references the hash of the previous block in the chain, so mining a block isn't easy, especially on large chains.

Acta Univ. Sapientiae, Mathematica, **12**, 2 (2020) 385–397

DOI: 10.2478/ausm-2020-0027

On application of differential subordination for Carathéodory functions

V. Agnes Sagaya Judy Lavanya
Dr. MGR Janaki College of Arts and Science
Chennai 600028, TamilNadu, India
email: lavanyaravi06@gmail.com

M.P. Jeyaraman
L. N. Government College
Ponneri, Chennai 601 204,
Tamil Nadu, India
email: jeyaraman_mp@yahoo.co.in

H. Aaisha Farzana
A. M. Jain College
Meenambakkam, Chennai 600 114,
Tamil Nadu, India
email: h.aaisha@gmail.com

Abstract. New sufficient conditions involving the properties of analytic functions to belong to the class of Carathéodory functions are investigated. Certain univalence and starlikeness conditions are deduced as special cases of main results.

1 Introduction

Let $\mathcal{H}$ be the class of analytic functions in the open unit disk $\mathbb{D} := \{z \in \mathbb{C} : |z| < 1\}$. Let $\mathcal{A}$ denote the class of all the functions $f \in \mathcal{H}$ that satisfy the normalization $f(0) = 0$, $f'(0) = 1$. Let $\mathcal{S}$ denote the subclass of $\mathcal{A}$ consisting of univalent functions. The function $f \in \mathcal{A}$ satisfying the conditions $\mathrm{Re}\{zf'(z)/f(z)\} > 0$, $\mathrm{Re}\{1 + zf''(z)/f'(z)\} > 0$ belong to the familiar classes of starlike and convex functions denoted by $\mathcal{S}^*$ and $\mathcal{C}$ respectively. Let f and g be analytic in $\mathbb{D}$, then we say that f is subordinate to g in $\mathbb{D}$ (written $f \prec g$)

2010 Mathematics Subject Classification: 30C45,30C80
Key words and phrases: analytic functions, differential subordination, Carathéodory function, starlike function, univalent function

Malaya Journal of Matematik, Vol. 8, No. 1, 183-188, 2020

https://doi.org/10.26637/MJM0801/0031

On certain geometric properties of generalized polylogarithm function

V. Agnes Sagaya Judy Lavanya[1]*, M.P. Jeyaraman[2] and H. Aaisha Farzana[3]

Abstract

In this manuscript, we investigate the Hadamard product $H_f(a,b;z)$ of normalized analytic functions in the unit disc Δ and generalized second order polylogarithm function $G(a,b;z)$, where

$$G(a,b;z)=\sum_{n=1}^{\infty}\frac{(a+1)(b+1)}{(n+a)(n+b)}z^n, a,b\in\mathbb{C}\backslash\{-1,-2,\dots\}.$$

Further, we derive certain characteristics of the function $H_f(a,b;z)$ and obtain various sufficient conditions for the function $H_f(a,b;z)$ to be Janowski starlike. Also certain inequalities containing the function $H_f(a,b;z)$ are obtained.

Keywords

Analytic functions, Convolution, Subordination, Generalized polylogarithm function.

AMS Subject Classification

30C45, 30C80.

[1] *Department of Mathematics, Dr. MGR Janaki College of Arts and Science, Chennai -600028, Tamil Nadu, India.*

[2] *Department of Mathematics, L.N. Government College, Ponneri-601204, Tamil Nadu, India.*

[3] *Department of Mathematics, A.M. Jain College, Meenambakkam, Chennai-600114, Tamil Nadu, India.*

***Corresponding author**: [1] lavanyaravi06@gmail.com; [2]jeyaraman_mp@yahoo.co.in; [3] h.aaisha@gmail.com

Article History: Received **24** October **2019**; Accepted **11** January **2020**

Contents

1. Introduction

Let $\mathcal{H}$ signifies the class of analytic functions in the unit disc $\Delta=\{z\in\mathbb{C}:|z|<1\}$. Let $\mathcal{A}_n$ signifies the class of analytic functions in Δ of the form

$$f(z)=z+\sum_{k=n+1}^{\infty}a_kz^k, \tag{1.1}$$

and denote $\mathcal{A}:=\mathcal{A}_1$.

Let f and g be analytic in Δ, then we say that f is subordinate to g in Δ (written $f\prec g$) if there exists a Schwarz function $w(z)$, analytic in Δ with

$$w(0)=0, \qquad |w(z)|<1 \qquad (z\in\Delta)$$

in a way that

$$f(z)=g(w(z)), \qquad (z\in\Delta).$$

Particularly, if the function g is univalent in Δ, then the subordination is similar to

$$f(0)=g(0) \quad \text{or} \quad f(\Delta)\subset g(\Delta).$$

Let

$$g(z)=z+\sum_{n=2}^{\infty}b_nz^n$$

be the Maclaurin series, the Hadamard product of f and g is defined by the power series

$$(f*g)z=f(z)*g(z)=z+\sum_{n=2}^{\infty}a_nb_nz^n.$$