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Malnutrition Detection using Skin and Nails Images

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Abstract - In this project we are elaborating concept of disease detection of human body using nail image of human fingers and analyzing data from the image of basicof nail color. In this project the procedure of disease detection is as follows: The input to the system is a personnail image. The system will process an image of nail andextract feature of nail which is used for disease diagnosis.Here, first training data is prepared using Machine Learning from nail image of patient of specific disease. Afeature extracted from input nail image is compared withtraining data set. In this project we found that colorfeature of nail image are correctly matched with trainingset data.

KEYWORDS: Skin Disease and Nail Disease Detection, Machine Learning, Malnutrition, Disease Detection.

INTRODUCTION

Malnutrition Inadequate nutrition leads to poor health. Bland diets (sometimes called thin-sliced diets) are described as those that fail to provide an adequate intakeof nutrients or on which they contribute to malnutrition. Because of the mix of nutrients that it contains, thecomposition may be calories, protein, sugars, fat, or minerals; even contains vitamins and minerals. When nutrients are missing, it is called undernourishment; when nutrients are there, it is called overdose.

Most commonly malnutrition is used to meana lack of calories, calcium, or micronutrients. Lack of dietearly in pregnancy or before the two-year mark can havelong-or short-term effects on children's health and brain growth. (undernourishment, shortness or chronic hunger,can result in) coarse, stunted growth, dry and emaciated skin, bloated and swollen thighs.

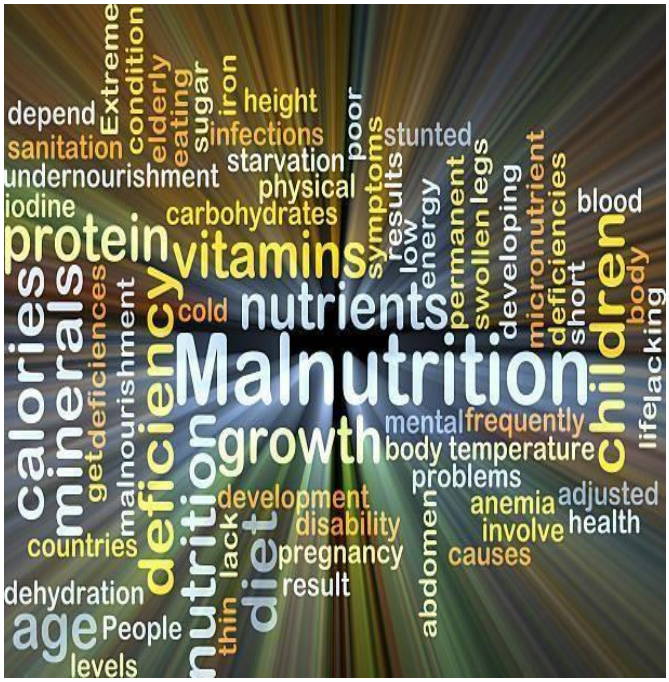


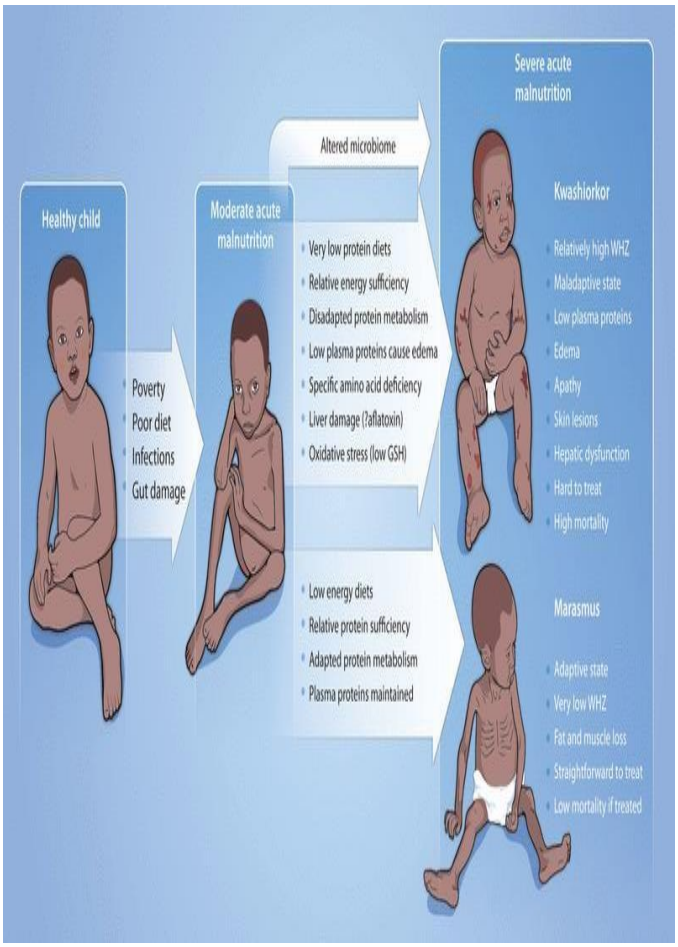
Image processing may be a technique for converting an image into digital form and for performing an action. Thefinal 5 types of images are called Image 5 Formats, that is, flexible image formats, specific graphic interchange formats, switchable image formats, and row images. 16 million different colours are likely to be perceived; whilethe visual acuity of the human eye limits it to almost the same number of distinct individuals. So, when you applyfingernail polish to a process using PC might be more accurate than looking at it with the naked eye.

PROBLEM STATEMENT

To build and implement Malnutrition Analysis Using SkinAnd Nails Images Based on Machine Learning.

LITERATURE SURVEY

in most developed nations, malnutrition is one of the greatest public health issues. 1/3 out of the estimated malnourished children in the world comes from India, with a rate of approximately 29.4% I had lived in povertymy whole childhood, so I lost all of my motivation and enthusiasm as I grew up. The aim of this study was to seewhether there was a connection between academic performance in school and nutritional deprivation in children's nutrition records.



SPECIFICATIONS

Hardware requirements

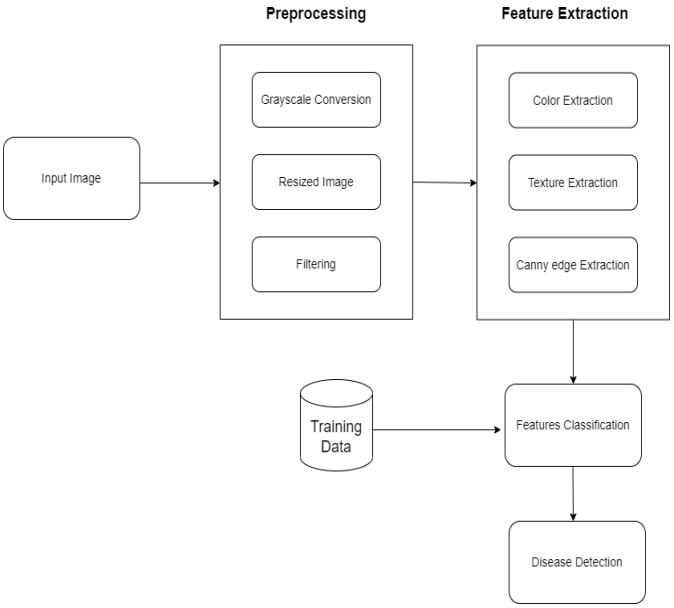
- Laptop or PC
- Intel i3 or higher (U series or higher)
- Hard-disk requirement: 2GB minimum
- RAM :4GBminimum

Software requirements

- Operating System: Windows 7/ Windows10/Windows 8 or later / Linux / Mac (64 bit)
- Editor: Eclipse, MySQL Query Browser
- Java, QT Designe, Java Language

SAMPLE IMAGES

SYSTEM ARCHITECTURE



ALGORITHMS

Convolution Neural Network(CNN) Algorithm:

Step1: Select the dataset.

Step 2: Perform feature

Step 3: Apply Classification algorithm CNN

Step 4: Calculate

Step 5: Calculate the convolution cores

Step 6: Produce sub sample layer and feature value.

Step 7: Finally give the selected feature and classificationresults.

ADVANTAGES

The system is to detect malnutrition in children thatcan help people and healthcare providers to reduce the effects caused by malnutrition by automation implementation instead of a manual process.

APLICATIONS

1] Medical Applications

2] Healthcare Applications

CONCLUSION

In presented system, system analyzes the human nail and gives probable disease for person including healthy case.This model gives more accurate results than human eye like subjectivity and resolution power. This may give more accurate result for identifying human health condition using machine learning algorithm.

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