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Research Paper on Drug Pill Recognition System

[1]Anish Roham, [2]Prof. Aparna Thakare, [3]Niraj Zunjarrao, [4]Sahil Bhore, [5]Prajwal Poojary

[1,2,3,4,5]Dept. of Computer Engineering, Siddhant College of Engineering, Savitribai Phule, Pune University, Pune, India

***Abstract* - Vision loss and forgetfulness are two aspects of aging and are normal processes. The elderly may be affected by these deformities, which may put them at risk during daily activities. Inappropriate drug use is one of the most dangerous problems. These mistakes pose a great risk to the health and life of the elderly. In addition, current solutions to this problem are designed for professionals or the public, without covering the needs of the elderly. As the first part of a large collection of devices designed specifically for the elderly, imaging devices have been proposed to help fill this lack of assistance. The concept continues to use its form, size and material for steps such as photography and tablet. Colour Tablet data in the local database is used to characterize and store the system during operation. The same feature then calculates and analyses the data during the authentication process to provide users with useful information about the authenticated tablet.**

Keywords: Healthcare, Blind, Pill Recognition, Image Processing, CNN.

I. INTRODUCTION

This help does not come from the health care system. Therefore, based on current technological developments (mobile only), we propose a different approach for this system. This solution was developed as part of a larger adult computer vision system. Computer technology is being used to create solutions that help seniors identify medications. Decisions that are part of a matter of medical knowledge must be independent and reliable. [9].

Blind or visually impaired elderly people often take the wrong medicine or forget to take it. This study also addresses this issue. Patients with visual impairment who use this wrong drug suffer greatly and cannot receive adequate help for this. Eliminating the need to specify a procedure for the capsule in patients with permanent blindness solves this problem. Drug safety in patients with visual impairment can be ensured using the instructions. [7].

This article describes the methods that visually impaired people use to identify drugs in tablets. Part I introduce the topic and provide an example. After Part II evaluates the data analysis of various data and the data generated for validation, Part III provides the recommended structure for the system.

II. LITERATURE REVIEW

Various strategies have been proposed by various researchers. The approach is presented in this section. Various related tools have been created and modified to provide relevant functionality (such as pill detection and medication notification) and encourage safe drug use.

D.Ushizima, A. Carneiro, M. Souza, and F. Medeiros. "Investigating pill recognition methods for a new national library ofmedicine image dataset"

Accurate drug identification has become an important issue in patient care and safety. Using the National Library of Medicine's (NLM) newly available tablet image database for search and characterization, this study searched for descriptions of tablets. The authors describe their investigation of using the NLM method for tablet image segmentation and the various features they extracted to compile the dictionary and tablet combination for the body of the tablet according to FDA standards. Evaluation of the 1,000 most popular drugs in the US, providing masks and sample matrices for NLM tablets using graphs to provide reproducible results, and the discussion of fitting our organization's knowledge process to core content, understanding that our tablet is part of collaboration Recognition automation done in pieces use image search.

B.Z. Yaniv, J. Faruque, S. Howe, K. Dunn, D. Sharlip, A. Bond, P.Perillan. "The national library of medicine pill image recognition challenge: an initial report"

The US Library of Medicine launched a competition in January 2016 to develop and discover effective methods and software for assessing image quality of drug users, similar to the drug images in the RxIMAGE registry. The need for doctors and the public to quickly identify unlabeled drugs is the driving force behind this campaign. These features will help identify drugs in situations where the drug and data are separated, such as in a disaster or emergency, when the drug is changed from a brand to a generic, or when the drug's shape and colour changes. Other reasons. This is the first step to support the development of the NLM software system and API to facilitate drug information.

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B.R. A. Calix, R. Gupta, M. Gupta, and K. Jiang. "Deep gramulator: Improving precision in the classification of personal health experience tweets with deep learning"

Pharmacovigilance is one of the activities that is an important part of health care. Drug safety monitoring and control through pharmacovigilance. Twitter data may be used when people share information about their personal health experiences online. But the amount of data on Twitter is a problem. Therefore, you must have a noise reduction strategy. In this work, we developed a classifier that can help identify personal experience tweets (PETs) using various machine learning techniques, including deep neural networks. Finally, we introduce Deep Gramulator technology to improve the results. The results of the analysis are demonstrated and discussed.

C.W.J. Chang, L.-B. Chen, C.-H. Hsu, C.-P. Lin, and T.-C. Yang. "A deep learning - based intelligent medicine recognition system for chronic patients"

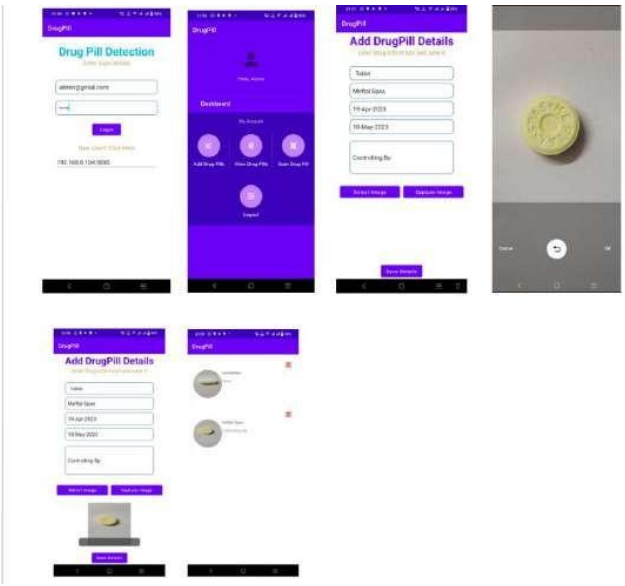
In this article, we propose ST-Med-Box, an intelligent drug discovery system based on deep learning. This approach can make it easier for people with chronic illnesses to take and avoid many medications appropriately. Drugs that are ineffective but can interact with other drugs and perform other drug-related functions include managing chronic patient information and providing medication alerts and follow-up information. The offerings include a deep learning server, a mobile application running on the Android platform, a smart anti-virus device and a cloud-based management platform. The system now recognizes eighty different drugs.

D.M. Ervasti, M. Isomursu, and I. I. Leibar. "Touch- and audio- based medication management service concept for vision impaired older people"

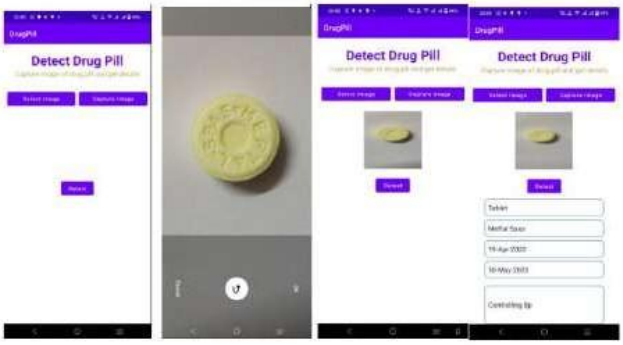
A prototype called Blind NFC was used to demonstrate the viability of the concept. It is an NFC-enabled PDA that can easily read drug names and doses by touching the medicine box. The results showed that older users were faster and used simple functions of touch and voice-based technology. In addition to all self-registered products, they see the technology's potential to mark and recognize other products in the body as well as pharmaceutical packaging.

III. PROCESS

Adding pill to the System



Detecting pill



IV. CONCLUSION

Therefore, we can conclude that this initiative will benefit many blind people who will need help with drug administration in the future. This review describes the design and methods for drug identification. The plan generates information on drug use by uploading drug information to a cloud-based drug management platform. This allows family members or caregivers to monitor long-term blind patients' medications using mobile apps.

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