Hafyz - Alzheimer's Assistant App

Tell us what your idea is.

Our idea is targeting Alzheimer's Disease Patients!, Hafyz is the name of the App and it has three features:

1- Face recognition

In this feature, we will use machine learning and computer vision to build a face recognizer, that help AD patient to recognize their family members that they forgot frequently!
This feature will use a mobile camera to recognize people in the images and people in front of the patient directly!

2- Memory & Attention

This the second feature, it will be the big part! We will use the attention mechanism in deep learning and memory storage to record what patients say and people around them say, the App will record all this speech data and convert it to text, in this phase we will use Natural Language Processing to analyze text and extract useful information such as events and some advice from their Doctor for time of treatments and time of exercises .. etc, then it convert important things to voice and tell the patient about important events!

3- GPS Tracking

In this feature, we will build a GPS tracker to track patient in their walks and record the pathway to help them know how to return home in case they forgot the way, also it will notify their family where is he/she in case they lost!

Tell us how you plan on bringing it to life.

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(1) any potential sample code you've already written:

I have built a CNN model that detect fruits using fruits360 dataset on Kaggle and you could look at the code, output and accuracy from here:
https://www.kaggle.com/mustafaabdallah/myfruitsdetection

(2) a list of the ways you could use Google's help

[1] we will learn from Google courses such as Machine Learning Crash Course, also we will use docs of Tensorflow Lite and ML Kit to help us build our models!

[2] Google will help us with mentorship to transfer our App from prototyping to production

[3] Google could provide us with high-quality data to build our face recognizer model

[4] Google could mentor us to build Memory and Attention feature because of it a critic and need precise information and high-quality data to build a high-accuracy model

(3) as well as the timeline on how you plan on bringing it to life by May 1, 2020.

December 2019

1. **Design and building database**
2. **Design and coding user interface**
3. **Build Face Recognition model**
4. **Write code to make Camera in Android App capture images**

January 2020

1. **Build Speech to text model**
2. **Build Text analyzer using Natural language processing**
3. **Write code to extract important sentences from the text**

February 2020

1. **Store this text in the database**
2. **Processing the stored Text and convert it to speech**
3. **Write code to make Mic in Android record conservations and voice commands**

March 2020

1. **Write code to make the Motion sensor in Android detect motions and know GPS location**

April 2020 - May 2020

1. **Deploy models on Google Cloud Platform**
2. **QA testing**
3. **Publish to Google Play Store**

Tell us about you.

Actually, we are a team in Computer Engineering and this App will be our Graduation Project, our experience is basics and it differs from one to another but we know how to write a Python code and know basics of machine learning!

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