

# OUTPUT SCREENSHOTS :

## PROJECT : Detecting Parkinson's Disease Using Machine Learning

TEAM ID : PNT2022TMID40374

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### Detection of Parkinson's Disease using ML

Parkinson disease (PD) is a progressive neuro degenerative disorder that impacts more than 6 million people around the world. Parkinson's disease is non-communicable, early-stage detection of Parkinson's can prevent further damages in humans suffering from it. However, Nonetheless, non-specialist physicians still do not have a definitive test for PD, similarly in the early stage of the diseased person where the signs may be intermittent and badly characterized. It resulted in a high rate of misdiagnosis (up to 25% among non-specialists) and many years before treatment, patients can have the disorder. A more accurate, unbiased means of early detection is required, preferably one that individuals can use in their home setting. However, it has been observed that PD's presence in a human is related to its hand-writing as well as hand-drawn subjects. From that perspective, several techniques have been proposed by researchers to detect Parkinson's disease from hand-drawn images of suspected people. But the previous methods have their constraints.

### Causes and Symptoms of Parkinson's Disease

#### PARKINSON'S DISEASE

A disease that affects nerve cells in the brain and causes tremors, poor coordination, and problems walking and moving.

#### CAUSES & RISK FACTORS

- Both causes & risk factors are affected
- Parkinson's commonly develops after age 50
- Scientists have identified abnormal genes that may lead to Parkinson's in some people, but there is no solid proof to show it is always inherited
- Men are more likely to develop Parkinson's disease because they are more likely to experience head injury or exposure to toxins


#### SYMPTOMS OF PARKINSON'S

- Swallowing
- No facial expression
- Shaking
- Difficulty speaking
- Shaking, tremors
- Loss of small or fine hand movements
- Memory loss, dementia
- Anxiety, depression
- Hallucinations
- Stopping posture
- Aches and pains
- Constipation
- Problems with balance or walking

#### Parkinson's Disease Symptoms



#### Stages of Parkinson's Disease



Stage 1: Develop mild symptoms but able to go about day-to-day life

Stage 2: Symptoms such as tremors and stiffness begin to worsen, may develop poor posture or have trouble walking

Stage 3: Movement begins to slow down, loss of balance

Stage 4: Symptoms are severe and cause significant issues with day-to-day living, unable to live alone and will need care

Stage 5: Walking or standing may be impossible at this point, people at this stage are often confined to a wheelchair or bed

Home Predict-Results

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#### Parkinson's Disease Symptoms



#### Stages of Parkinson's Disease



Stage 1: Develop mild symptoms but able to go about day-to-day life

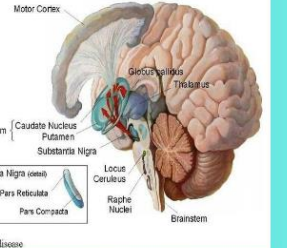
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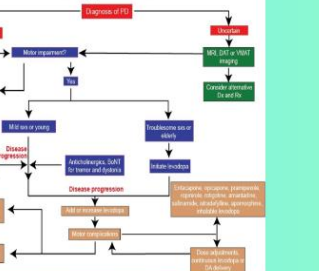
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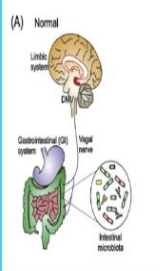
#### Brain Regions Affected by Parkinson's Disease



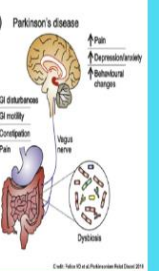
#### Treatment of Motor Symptoms of Parkinson's Disease



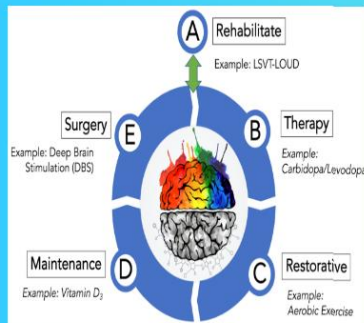
#### (A) Normal



#### (B) Parkinson's disease

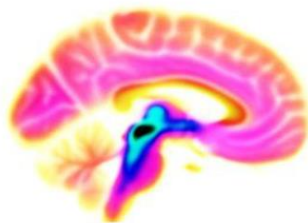


## Treatment for parkinson disease

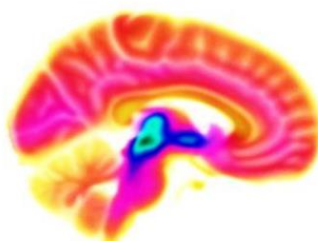


## How brains looks during PD?

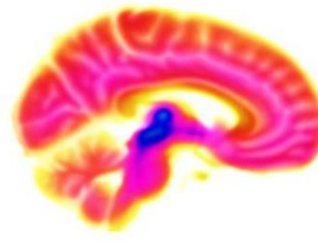
## How brains looks during PD?



Healthy

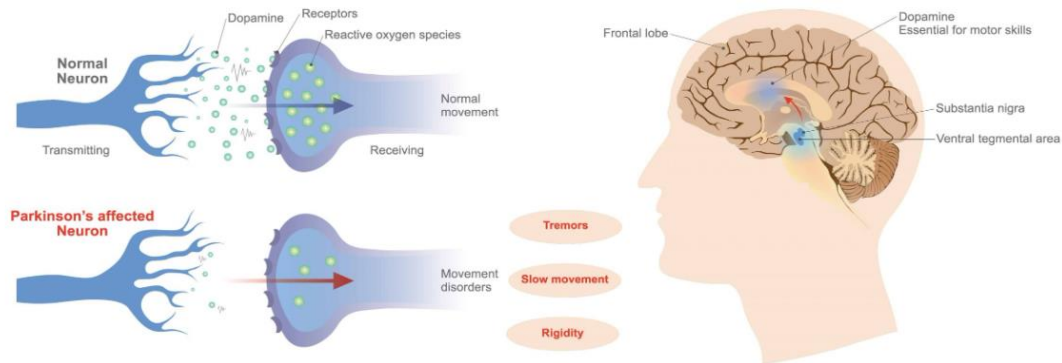


Parkinson's Disease  
before symptoms



Parkinson's Disease  
after symptoms

# Parkinson's disease



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♥ **Diagnosis is not the end, but the beginning of practice.**

♥ **Detect the disease and take measures wisely**

NOTE: Upload an spiral drawn by the patient for better Prediction /user in a white sheet

Choose...

Predict!

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Prediction : healthy



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Predict!

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Prediction : parkinson