ELECTRONICS & COMMUNICATION ENGINEERING
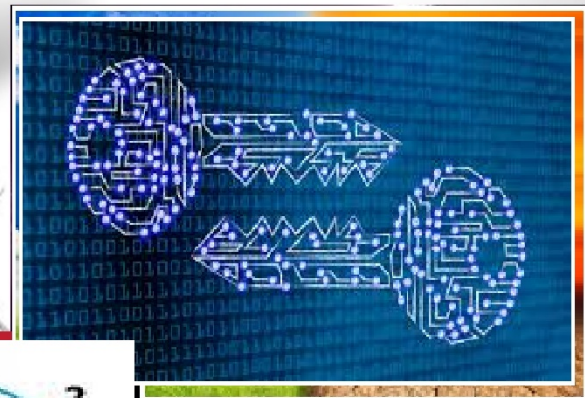
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Contents

Editorial Board Members

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1. *Multi Copter Technology in health monitoring*

When an accident occurs, if not followed up quickly, the probability of a person's survival decrease must be resolved rapidly. Modern hospitals are well these cases, particularly if the ambulance is disrupted by traffic or road blockages that may hinder the survival of the patient. The aircraft without a human pilot on board is the unmanned aerial vehicle (UAV), also known as drone. The path is aerial and does not have the assistance of a drone or quadcopter. Further power will be provided by using additional motors and propellers. The four-mounted BLDC quadcopter motor and propeller makes this the optimum design and provides the drive necessary. The drone control has 4 2200mAh batteries. The drone consists of a medical shell, capable of assessing patient safety conditions in real time and responding to emergencies more efficiently than an ambulance. The health monitoring system includes pulse sensor, temperature sensor, and ECG sensor. A sensor is attached directly to the arm so that disposable electrodes control the pulse. Electrodes transform the heartbeat into an electrical signal which enables ECG equipment to continuously track heartbeat and provide heart rate data.

The sensor controls patient's body temperature. The sensor is checked per minute for the patient's heartbeat or pulse rate. The ZIGBEE system is used to relay data from the emergency site to the destination into the ambulance in real time . An ECG sensor is directly connected to the arm to track heart rhythm. Electrodes convert heartbeat into electric signal, allowing ECG devices to track heartbeat continuously and provide cardiac data. The sensor monitors the temperature of the patient's body. The heartbeat or pulse rate sensor is used for every minute to measure the number of patients ' heartbeat. ZIGBEE is used to forward in real time data on the way to the destination from the emergency location to the ambulance.

Classifications of multirotors:

Multicopters (as known as multirotors) often use fixed-pitch propellers, so the control of vehicle motion is achieved by varying the relative speed of each motor. Radio controlled multicopters are increasingly popular for aerial photography, and land surveying. More recently Drone Racing is a hot topic, where multicopters are used in racing and free-style competition. There are many types of multirotor. They are generally categorized by the number of motors used, for example a three-motored multicopter is a called a tricopter, and the configuration can also be referred to as Y3.

Types of multirotors:

➢ Bicopter

➢ Tricopter

➢ Quadcopter

➢ Pentacopter

➢ Hexacopter

➢ Octocopter

The number of motors and configuration has impact on flight performance, and each has its own advantages. For instance the more motors, the more power and lift capacity, which means you could carry more payload. More motors also mean better redundancy in case of motor failure. But the downside is decrease in power efficiency, and increase in the cost of purchasing additional hardware and maintenance. We will also discuss the benefits of Coaxial Motor-Arrangement.

Bicopter:

The Bicopter has two motors that can be moved by servos to desired tilt angles. It looks similar to the "Avatar Gunship" (if you have seen the movie Avatar). Here is an example of the bicopter avatar gunship. Bicopter could be the cheapest multicopter configuration to build among all because it only uses two motors and two servos. But it's also the most difficult platform to stabilize in flight. It has the least lifting power given the fact that it only has 2 motors. Bicopter is not a very popular configuration for hobbyists, and there isn't much information to be found on the internet.

Tricopter:

The Tricopter has 3 motors, and typically in a "Y" shape, where the arms are usually 120 degrees apart. Tricopters can sometimes be found in a "T" shape too. Two propellers on the front arms spins the opposite direction to counter each other out. The rear motor can be tilted left and right by a servo to enable the yaw mechanism. Here is a "Y3" tricopter I built before. Here is a "T3″ Tricopter example. It's a popular yet relatively cheap configuration because it only requires 3 motors, although you also need an additional servo but they are generally cheaper than brushless motors. Generally speaking, tricopters are less stable than other multirotors with more motors, and it's not as robust due to the vulnerability of the tail servo and mechanics in crashes. For hobbyists, it's also harder to build because of the yaw mechanism

Quadcopter:

A quadcopter has 4 motors mounted on a symmetric frame, each arm is typically 90 degree apart for the X4 configuration. Two motors rotate CW (clockwise), and the other two rotate CCW (counter clockwise) to create opposite force to stay balance. Quadcopter is the most popular multirotor configuration, with the simplest mechanical structure. It's widely used for drone racing in the form of "mini quad".

Pentacopter:

One obvious advantage of the pentacopter is the wide angle of the two front arm which allows the propellers to stay out of the camera view as far as possible. There isn't much information on this config because it's not a popular setup. But there have been people building this and verified the feasibility of this cool looking config.

Hexacopter:

The hexacopter has 6 motors mounted typically 60 degree apart on a symmetric frame, with three sets of CW and CCW motors/propellers. Hexacopters are very similar to the quadcopters, but they provide more lifting capacity with the extra motors. There is also improvement in redundancy: if one motor fails, the aircraft can still remain stable enough for a safe landing. The downside is that they tend to be larger in size and more expensive to build.

Octocopter:

A typical octocopter has 8 motors on the same level with four sets of CW and CCW propellers. Octocopters are similar to quadcopters and hexacopters. It's like an upgrade version of the hexacopter with even more lifting capacity and redundancy. However the large number of motors means they draw more current, and you will probably need to carry multiple battery packs. Also it's going to be expensive. They are very popular as aerial photography platforms and carrying heavy, professional filming gears.

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2.Blood grouping in disease detection

Traditional ways of detecting human blood group in this era of digitization remain analogue and are prone to errors. As, distinguishing blood gathering is fundamental for huge numbers of the medicinal systems it would be extremely productive on the off chance that it is done in an extremely quick powerful methodology. In biotechnological field image processing is being used which is speedy and accurate. Also malaria fever can be detected through image processing by applying different techniques on the extracted image which is acquired from a dataset. Here, in this paper we are proposing a efficient system which will help in detection of blood group and as well as malaria fever depending on microscopic images which are extracted from a digital microscope.

Malaria is one of the most widely recognized irresistible infections and a Great general medical issue around the world, especially in Africa and south Asia. As per the World Health Organization, it caused more than 1 million passing's emerging from around 300 to 500 million contaminations consistently, generally in kids under five years old. A few worldwide associations have set up driven destinations for huge scope malaria control. The definitive diagnosis of malaria infection is finished via scanning for parasite in blood slides through a magnifying lens. Despite the fact that there are more up to date systems manual microscopy assessment of blood spreads (imagined in the late nineteenth century), is presently "the highest quality level" for malaria determination. Conclusion utilizing a magnifying instrument requires extraordinary preparing and extensive mastery. It was appeared in a few investigations that manual microscopy is certainly not a dependable screening technique when performed by non specialists because of absence of preparing particularly in the rustic zones where malaria is endemic.

Location is the most significant undertaking though the species recognizable proof is essential for a suitable treatment. There are such huge numbers of quantities of vision examines address the robotized analysis of intestinal sickness. Not with standing, none of these works give a total arrangement (100%) to identify automated diagnosis of malaria parasite in blood pictures.

Blood is one of the most significant components of the human body which fills in as a significant connective tissue and keeps the flow of numerous basic fixing like oxygen and different supplements. It is very important in various medical procedures to know about blood type and other supplementary components like RBC count and CBC. The

conventional technique for recognizing the blood group is normally the plate test and the cylinder test. The two of which are finished by under complete analog techniques with human perception. In the generation of digitization, it isn't always an efficient manner to address any such simple yet critical medical technique in a full analog based method.There is likewise a couple of strategies, for example, miniaturized scale plate testing and gel centrifugation. These methodologies are expensive and those should be finished by individuals with solid range of abilities with some specific hardware. Essentially, the procedure of blood bunch investigation relies upon the agglutination of an example blood. The blood of a patient is blended in with three kinds of antigens, which are antigen An, antigen B and antigen D. The agglutination in any specific blood sample guarantees the positivity of that blood belonging in that correspondent group.

Blood composing is a method to figure out what sort of blood you have. Blood composing is done so you can safely give your blood or get a blood transfusion. It is in like manner done to check whether you have a substance called Rh factor outwardly of your red platelets. Your blood arrangement relies upon whether certain proteins are on your red platelets. These proteins are called antigens. Blood is habitually assembled by the ABO blood composing framework. Antigens are substances that help your body separate between its own cells and outside, possibly dangerous ones. If your body thinks a cell is remote, it will choose to wreck it. The ABO blood creating system bunches your blood into one of four classes:

> Type A has the An antigen.
> Type B has the B antigen.
> Type AB has both An and B antigens.
> Type O has neither A nor B antigens.

On the off chance that blood with antigens that you don't have enters your frame work, your body will make antibodies against it. In any case, a few people can even now securely get blood that isn't their blood classification. For whatever length of time that the blood they get doesn't have any antigens that mark it as outside, their bodies won't assault it.

As it were, gifts fill in as follows:

O: Type O people can give blood to anybody, on the grounds that their blood has no antigens. Be that as it may, they can just get blood from other kind O people (since blood with any antigens is viewed as outside).

A: Type A people can give to other sort A people and type AB people. Type A people can get blood just from other kind A people and type O people.

B: Type B people can give blood to other B people and AB people. Type B people can get blood just from type B people and type O people.

AB: Type AB people can give blood just to other AB people; yet can get blood of any sort.

The recognition of the composite creatures from an example blood slide has been done by means of image processing techniques like threshold morphological operations. Blunders can be happened in these methods if the identification of agglutinations is solemnly finished with human eyes. Wrongly determined blood group brings about extraordinary circumstances if there should be an occurrence of further diagnostics upon that decision. For deciding the right blood bunch we need a perfect activity defended with intelligent and scientific computations and immaculate picture preparing to distinguish leftover blunders that evade corrective procedures. Image segmentation is one ofthe most fundamental techniques of image processing.

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3.Image Cryptography

In today's scenario the transmission of information from one place to another place is leading a prominent role. While transmitting the information we may face many problems by intruders. To overcome the problems arisen by the intruder we have to implement an efficient technique which can secure the attacks on the information done by the intruders.

Cryptography is a technique which can secure the information by encrypting the data at sender side and transmitting the encrypted data, decrypting the data and getting the original information at receiver side. There are many algorithms in cryptography which an secure the data. The desire to transmit messages securely is not new. For centuries, people have had a need to keep their communications private. Today, digital ommunications systems, particularly those related to the Internet are used to carry vast amounts of sensitive data. Sending credit card information to a web site in an e-commerce transaction or exchanging confidential trade secrets by e-mail are typical examples. The field of cryptography deals with the techniques for conveying information securely. The goal is to allow the intended recipients of a message to receive the message properly while preventing eavesdroppers from understanding the message.

The message in its original form is called plaintext. The transmitter in a secure system will encrypt the plaintext in order to hide its meaning. This reversible mathematical process produces an encrypted output called ciphertext. The algorithm used to encrypt the message is a cipher. Cryptanalysis is the science of breaking ciphers, and cryptanalysts try to defeat the security of cryptographic systems. A ciphertext can be transmitted openly across a communications channel. Because of its encrypted nature, eavesdroppers who may have access to the ciphertext will ideally be unable to uncover the message's meaning. Only the intended recipient can decrypt the message to recover the plaintext for interpretation.

Classifying ciphers: Ciphers can be classified using several criteria. According to one criterion, two important types of ciphers exist: symmetric key and asymmetric key. In symmetric key ciphers, the same key is used for both encryption and decryption. A major problem with such a system is that the sender and receiver must know the key prior to transmission. This requirement makes such a system difficult to use in practice. The key cannot be openly transmitted since that would compromise the system's security. One

possibility is for the two parties to meet and exchange the keys prior to transmitting their messages.

However, this exchange becomes difficult when many parties are involved in a communications network. An asymmetric key cipher uses different keys for encryption and decryption. These two keys are mathematically related, but it is very difficult to obtain one from the other. The key used for encryption is called the public key and the key used for decryption is called the private key. The public key can be made available without compromising the security of the system. The corresponding private key, however, must not be revealed to any party.

Steganography:

Steganography is the art and science of invisible communication. This is accomplished through hiding information behind other information, thus hiding the existence of the communicated information. The word Steganography is derived from the Greek words "stegos" meaning "cover" and "grafia" meaning "writing" defining it as "covered writing". Steganography is of different types:

> ➢ Text Steganography
> ➢ Image Steganography
> ➢ Audio Steganography
> ➢ Video Steganography

In all of these methods, the basic principle of Steganography is of redundant information in a text compared to an image or audio. The text Steganography is a method of using written natural language to conceal a secret message. The advantage to prefer text Steganography over other media is its smaller memory occupation and simpler communication.

1.Text Steganography: One major category, perhaps the most difficult kind of Steganography is text Steganography or linguistic Steganography because due to the lack of redundant information in a text compared to an image or audio. The text Steganography is a method of using written natural language to conceal a secret message. The advantage to prefer text Steganography over other media is its smaller memory occupation and simpler communication.

2. Image Steganography: PEG compression is a commonly used method for reducing the size of an image, without reducing the aesthetic qualities enough to become noticeable by the naked eye. Broadly speaking, it extracts all the information from an image that the human eye is not perceptible to and would therefore not miss should it not be there.

3. Audio Steganography: Audio Steganography is the technology of embedding information in an audio channel. It is used for digital copyright protection. Watermarking is the technique which hides one piece of information [message] in another piece of information [carrier]. It is widely used for applications such as audio clip etc.

4. Video Steganography: Video files are generally a collection of images and sounds, so most of the presented techniques on images and audio can be applied to video files too. The great advantages of video are the large amount of data that can be hidden inside and the fact that it is a moving stream of images & sounds. Therefore, any small out otherwise noticeable distortions might go by unobserved by humans because of the continuous flow of information.

Steganography vs Cryptography

Basically, the purpose of cryptography and Steganography is to provide secret communication. However, Steganography is not the same as cryptography. Cryptography hides the contents of a secret message from a malicious people, whereas Steganography even conceals the existence of the message. Steganography must not be confused with cryptography, where we transform the message so as to make it meaning obscure to a malicious people who intercept it. Therefore, the definition of breaking the system is different. In cryptography, the system is broken when the attacker can read the secret message. Breaking a Steganography system need the attacker to detect that Steganography has been used and he is able to read the embedded message.

In cryptography, the structure of a message is scrambled to make it meaningless and unintelligible unless the decryption key is available. It makes no attempt to disguise or hide the encoded message. Basically, cryptography offers the ability of transmitting information between persons in a way that prevents a third party from reading it. Cryptography can also provide authentication for verifying the identity of someone or something. In contrast, Steganography does not alter the structure of the secret message, but hides it inside a cover image so it cannot be seen.

A message in cipher text, for instance, might arouse suspicion on the part of the recipient while an "invisible" message created with steganographic methods will not. In

other word, Steganography prevents an unintended recipient from suspecting that the data exists.In addition, the security of classical Steganography system relies on secrecy of the data encoding system .Once the encoding system is known, the Steganography system is defeated.

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4.Health Monitoring Systems

The advances and segment change, society is confronting a significant incitement identified with expanded future and a greater number of patients in circumstances of reliance. The objective is to increase the free living at home for more seasoned and debilitated people, giving thought and security benefits by strategies for examination of patient biomedical parameters using Lab VIEW and web server. This framework demonstrates the strategy for checking patients' biomedical Net database and Lab VIEW appliances utilizing variables including temperature, heart rate and BP. The IBM Watson Quick Start stage is used for making the page where we can show the procured sensor esteems and their particular charts. It will in general be applied in web through webpage or framework so patient's performance and biomedical parameters can be seen wherever all through the around the globe.

Doctor's facilities continuously require exceptional administration. The database of every last bit patients ought to be helpful sufficient. Be that as also, there ought to a chance to be information avoidance. Likewise, the tolerant information ought further bolstering be kept private in the event. Social insurance may be the majority critical concern from claiming numerous nations in the universe. Enhancing those exist of patients particularly in the weaker parts of the particular social order which incorporate those elderly, physically Also rationally handicapped and additionally the chronically sick patients may be the main consideration will make progressed. On existing system, that information is recorded in the manifestation from claiming paperwork or looking into general stockpiling server. However by and large, that information will be approachable on every last one of staff Furthermore doctors. Subsequently we need aid proposing another route the place tolerant What's more doctors fit to correspond through versatile requisition Furthermore web requisition.

To have doctor's facilities there is a need to get the aid procurements to nonstop screening from claiming patients. Their heartbeats need aid ceaselessly monitored. There may be no procurement on check those parameters the point when they exchange will home. What's more Consequently there is an opportunity that the ailment might come back once more. Patient-Health's information (high-temperature, Cardiac frequency, position) will be every now and again measured and transmitted through net-server. Time about

sending (say each 3 min) could a chance to be situated. Checking individual takes in tolerant particular edge. Approximately the standard body-temperature of a tolerant is 37? c while lone pernickety senses hot in as much body temperature is 37. 0˚c.By utilizing an averaging techno babble in a moderately long time, eyewitness could take these thresholds for patients. Utilizing same provision previously, doctor's advanced mobile phone, specialist might perspective as much patient's wellbeing status. At any of the parameter dives past the edge esteem he will get a caution notice.

Utilizing Android provision clinched alongside patient's alternately as much caretaker's keen telephone those tolerant could see as much wellbeing status. Right on time identification What's more finding of conceivably deadly mishap physiological states for example, such that heart strike require nonstop following about patient's wellbeing Emulating exchange from clinic on home. Investigations bring indicated that 30% of patients for a release finding from claiming heart disappointment need aid readmitted no less than When inside 90 times for degrees extending from 24 -55% inside 4– 6 months. Because of the opposition to these sorts of needs, wellbeing checking frameworks are continuously suggested as a low cosset result. Such an arrangement comprises of physiological information that stores, transform Also correspond through a nearby way for example, such that keen phones, individual Pcs. Such frameworks ought further to bolster fulfill strict safety, security, reliability,

In the recommended framework we display a wellbeing observing framework that utilization of the sensing-nodes for gathering information from suffering people, intellectual elite forecasts people's wellbeing position Furthermore gives sentiment should doctors through their versatile apparatuses Hosting provision. Today web need turned into a standout amongst the critical and only our Everyday term. It needs to be altered how individuals survive, grind, assume as well as gain. Web-servers for Numerous motivation edifications, economics, Occupational, Productions, Entertaining, social-Networking, Shopping, ecommerce sectors and so forth. Those next new mega patterns of web will be web for things (IOT).

Many nations like India, ill-advised clinical offices are a significant concern, particularly in inaccessible towns. Improper clinical treatment and conclusion in rustic zones, is predominantly because of the poor specialist to quiet proportion. So as to build the patient consideration power, there emerges a need to improve the patient observing framework in a compelling manner. The fundamental imperfection in the checking framework is really the presence of a qualified doctor in the patient's area required, which

is unimaginable consistently. Thus, it gets imperative to build up a framework which doesn't request the specialist's presence for checking. The proposed review of human body checking framework empowers specialists to screen bio signals, for example, Heartbeat, blood pressure and internal temperature of patients.

This endeavour covers live monitoring of the patient's biomedical parameters. The patients who are in home under essential situation and ought to be circumspectly test the specifications of their basic human body must be handled in time. This structure reinforces transmission of human body parameters similarly as graphical user interface-based stage in neighbourhood crisis centre PCs by Lab VIEW interface with different sensors.

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5.Image Processing for detecting neurological disorders

A neurological disfunction is a disorder of the nervous system. Structural, electrical irregularity in the brain, spinal cord or nerves can lead in a range of symptom. There are many neurological disorders, some relatively common, but rare .They may be assessed by many neurological examination, studied and treated with the treatments of neurology and clinical neuropsychology. However the brain and spinal cord are surrounded by tough membranes, situated in the bones of the skull and spinal cord, and separated by the blood–brain, they are very prone if compromised.

Nerves are situated deeply under the skin but still become exposed in such a way to damage. Individual neurons and the neural circuits and nerves into which they form, are prone to electrochemical and disruption. Neuroregeneration can come in the peripheral nervous system and then control or work around injury to some extents, but it may be rare in the brain and spinal cord.The particular reason of several neurological problems vary, but include genetic disorders, problems including nerve injury, malnutrition and sensitivity of gluten.

Neurological problem can begin in another system body which interacts with nervous system. For instance, cerebrovascular problems involve injury of brain due to issues with the blood vessels supplying the brain. Neurological problems may be classify according to the major parts affected, the primary type of dysfunction involved, or the major type of cause. The broadest classification is betweendisorders of central nervous system and disorders of peripheral nervous system. Neurological examination may be used to the effect of neurological damages and disease on brain function in terms of character, memory. Behavioral neurology specify in this areas. On the other side, separation refers to small or complete disorders of the separation of a person's functioning, as person can feel separated from one's feelings, body and immediate environment conditions which are classified as disorders, or learning disabilities and forms of disability, are not themselves generally deals with as neurological disorders.

PARKINSON'S DISEASE:

Parkinson's disease is a disorder of brain which leads to stiffness, shaking, and difficulty with balance, walking and coordination of parts .Symptoms of Parkinson's generally starts gradually and will get worse over time. The putamen plays a key role

in Parkinson's disease because its inputs and outputs are interconnected to the substantia nigra and the globus pallidus. The activity in direct pathways to interior globus pallidus decreases and activity in indirect pathways to external globus pallidus increases in Parkinson's disease. As the disease increases, a person may have difficulty in talking and walking. This may also have many changes in mental and behavioral includes problems in sleeping, fatigue,depression and memory difficulties. A clear risk element for PD is age. However many people with PD develop the disease first at age 60, between 5 to 10 percent of people with PD have "early-onset" disease, which starts before the age 50.Fig 1 differentiates between normal brain and PD affected brain.
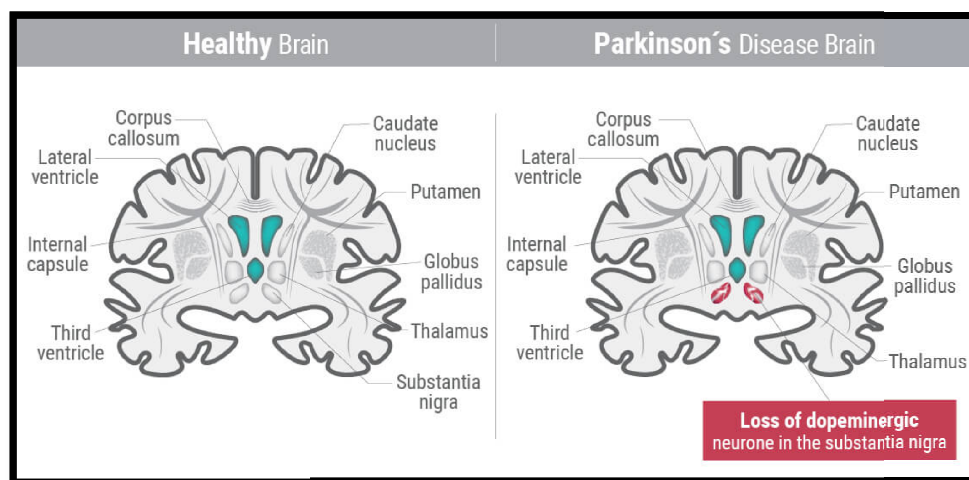

Fig 1. Comparison of normal brain with PD affected brain

Causes Of Parkinson's Disease:

Parkinson's disease starts when nerve cells called neurons, in an brain area which controls movement become damaged or die[9].Generally, those neurons build an important brain chemical called as dopamine.When the neurons die or become damaged, produces low dopamine, which leads to the movement issues of PD. Scientists upto now did not know what are the causes that leads to decrease of dopamine

Person affected by PD also lose the nerve ending which produces norepinephrine,a main chemical messenger of the sympathetic nervous system, that reins many automatic functions of the body, as rate of heart and blood pressure.The missing of norepinephrine may help in explaining many of the non-movement qualities of PD, such as improper blood pressure, slow movement of food by the digestive tract, and unexpected decrease in

blood pressure when a person stands up from lying down position or sitting position. Brain cells of person with PD contains Lewy bodies, abnormal clumps of   a protein called as alpha-synuclein. However some of the cases of PD appears as hereditary, and few can be detected to particular mutations in genes

Symptoms of Parkinson 's disease:

Person affected with PD has four main symptoms:

1. Shaking in hands,legs,head.
2. Rigidity in limbs.
3. Slowness of movement.
4. Weakness in coordination and balance, leading to falls.

Signs of PD and rate of progress differs among persons.People may also have early symptoms of PD as the effects of aging in normal persons. Advanced indications of Parkinson disease are precise and occur slowly. For instance, affected person can notice light tremors or will have trouble in getting out from a chair[26].

Person affected with PD frequently develop a parkinsonian walk which adds a tendency of leaning forward, little quick steps as hurrying forward, also includes decreases in movements of the arms. Signs often begins on one position of the body or in one limb on one side of the body. As disease worsen, it may finally affects two sides. Nevertheless the signs can still   more serious on one side than other. People with PD notes that preceding to stiffness and tremor, they will have sleep problems, constipation, low ability to smelland troubled legs.

Diagnosis Of Parkinson's Disease:

 Number of disorders may causes signs common as of Parkinson's disease .Person with Parkinson disease have symptoms which results from other reasons are sometimes said to has parkinsonism. Because of many other diseases has similar features but requires different therapy, it is crucial to do correct diagnosis as soon as possible[25].At present no laboratory or blood tests to identify nongenetic cases of Parkinson's disease. Diagnosis is depend on a person medical record and a neurological examination

Image segmentation has a key role in scientific diagnosis. An ideal approach of segmentation has some primary residences, including minimal operator interplay, fast

calculation, accuracy and noise-sturdy outcomes through the photograph variability for exceptional sufferers. Many studies have been performed which have focused on segmentation of X-ray imaging, Magnetic Resonance Imaging(MRI),CT Scan and ultrasound. Basal nuclei,also known as basal ganglia, is a hard and fast of anatomical systems located deep in the cerebral cortex, among the anterior and the medial zones of the brain.

Basal nuclei are key factors in treatment of pathologies of the nervous system, inclusive of Parkinson's or Huntington's disease, whose signs include the hard performance of motor features, generating from writhing actions, peculiar postures, to important tremor and Tourette syndrome. In particular putamen, a round shaped structure located near the fore brain is a part of Basal nuclei. The putamen is interconnected with many other structures, and works in conjunction with them to influence many types of motor behaviors. These include motor planning, learning, and execution, motor preparation, specifying amplitudes of movement and movement sequences. There are several existing techniques which are used for image segmentation vide structural segmentation techniques, stochastic segmentation techniques and hybrid techniques.

The fundamental concept of in the proposed work is elimination of non-brain tissues using Gaussian approximation of image histogram and extracting putamen from that skull stripped MRI image in order to detect Parkinson disease. Various steps involved in the proposed method is presented in Fig .2.

In the process of image acquisition, any image is generally contaminated by the presence of noise. Noise may be due to either poor intensity, wrong positioning of the sensors or detectors or due to intensity in homogeneity. In magnetic resonance (MR) images, different tissues may have same intensity characterization, thereby affecting the accuracy of the segmentation algorithm.

In the pre-processing stage, the image intensity values are adjusted either concentrating on the quality or on the signal to noise ratio. This is later followed by noise removal that is achieved via histogram. The difference in the noise and original intensity values was derived from the valley of the histogram. Brain Imaging has been most commonly used in many medical related applications that are useful in the identification of brain disorders such as brain injury, stroke, paralysis and trouble breathing. Brain extraction or skull stripping is a very important pre-processing phase preceding nearly all automated brain magnetic resonance (MR) imaging (MRI) applications .This consists of

separating the skull and additional brain tissue (e.g., scalp and dura) from the MR brain. Brain extraction is a challenge, as the boundaries between brain and non-brain tissues, particularly those between gray matter and durum matter, may not be clear on MR images.
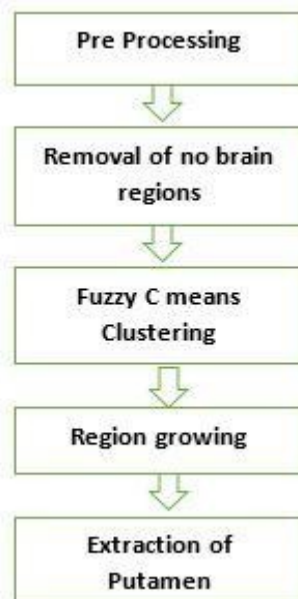
2.Fundamental steps in Segmenting the Putamen

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Editorial

As the dawn comes after darkness, so is that for every beginning there should be an end. No story exists without an end. However, whether it's a good end or bad depends something on perception and remaining on what are our deeds and what we have planned for. Irrespective of many odds in life, the best way to survive is to change as well as accept the change. I wish the final year students who are leaving the campus soon all the best. I pray god that they should be blessed with enough strength to face the challenges of the world. As mentioned by anonymous, till now all of them under the shelter of either the parents or the faculty but now they themselves need to face the real word. The current edition majorly contained the contributions from the final year students. The cover page images have been taken from dronezone.com, .com and medium .com.

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Department of Electronics & communication Engineering