**Machine Learning and Evolutionary Approach for Alzheimer’s disease detection**

B.Tech Computer Science & Engineering

**USE CASE**

**Diagnosing Alzheimer's**

There is no simple way to detect Alzheimer’s. Diagnosis requires a complete medical exam. Blood tests, mental status tests and brain imaging may be used to determine the cause of symptoms.

* Your family’s medical history
* A neurological exam
* Cognitive tests to evaluate memory and thinking
* Blood tests (to rule out other possible causes of symptoms)
* Brain imaging

While doctors can usually determine if someone has dementia, it may be more difficult to distinguish what type of dementia. Misdiagnosis is more common with younger-onset Alzheimer’s.

Receiving an accurate diagnosis earlier in the disease process is important because it allows:

* A higher likelihood of benefiting from available treatments, which can improve quality of life
* The opportunity to receive support services
* A chance to participate in clinical trials and studies
* An opportunity to express wishes regarding future care and living arrangements
* Time to put financial and legal plans in place

While there are currently no treatments available to slow or stop the brain damage caused by Alzheimer’s disease, several medications can temporarily help improve the symptoms of dementia for some people. These medications work by increasing neurotransmitters in the brain.

Researchers continue to search for ways to better treat Alzheimer’s and other progressive dementias. Currently, dozens of therapies and pharmacologic treatments that focus on stopping the brain cell death associated with Alzheimer’s are underway.

**Alzheimer’s Treatment and Support**

In addition, having support systems in place and the use of non-pharmacologic behavioral interventions can improve quality of life for both people with dementia and their caregivers and families. This includes:

* Treatment of co-existing medical conditions
* Coordination of care among health care professionals
* Participation in activities, which can improve mood
* Behavioral interventions (to help with common changes, such as aggression, sleep issues and agitation)
* Education about the disease
* Building a care team for support