**LITERATURE SURVEY** :

A brain tumor may have a terrible, permanent, and sometimes fatal effect on a person's life. Brain tumors come in around 100 different kinds, each with unique traits and effects. Approximately one million Americans suffer from brain tumors; 41% of patients are men and 59% are women. Approximately 94390 new instances of brain tumors have been reported. 2023 is the year. In 2023, 18990 persons are projected to be at risk of dying from tumors. For those who are afflicted, an early diagnosis therefore presents a chance to save their lives. It is necessary to create a suitable early diagnostic technique for tumor identification in order to potentially reduce the fatality rate from brain tumors.[1][2][3] One such method for identifying brain tumors is the use of MRI for short, which gives us a clear picture of the outcome. However, if the MRI procedure is so rapid, it would have been more advantageous for the doctors to interpret the results with early therapies and potential drugs that the patient may take to recover. Faster forecasts that can aid in prompt therapy necessitate an early and efficient diagnostic method. [4][5][6] There are a number of computational processes involved in the handling of MRI pictures. However, one of the issues with MRI scans is that not all of them are identical and clear. Some may stray from the main structure and vary from the others. Some photographs may be too dark to see, while others may be too bright. This makes it difficult for practitioners and models to gain a good understanding of the image. Thus, a segmentation or filtration approach such as denoising should be constructed and used to get clear pictures in which all images follow the exact same procedure and are straightforward to analyze. [7][8][9] Relying on deep neural networks, SVM (Support Vector Machine and Radial Basis Functional Neural Networks (RBF NN) might be used. Filtering, Grey Level co-occurrence Matrix extraction, and feature extractions may also be utilized for visual processing and analysis. Feature extraction is an important part of image processing since it includes recognizing a comparable or repeated pattern, which evaluates the trend of the dataset and aids in categorization. When employing algorithms like SVM, pattern recognition and creation are critical.[10][11][12] MRI processing of pictures can also benefit from Data Mining approaches. These data mining approaches are divided into four parts. The initial and most significant step is picture pre-processing. The following phase is dividing pictures for item recognition. The next step is to extract characteristics such as form, color, and texture. The final stage incorporates 2024 International Conference on Intelligent and Innovative Technologies in Computing, Electrical and Electronics (IITCEE) | 979-8-3503-0641-5/24/$31.00 ©2024 IEEE | DOI: 10.1109/IITCEE59897.2024.10467466 Authorized licensed use limited to: Zhejiang University. Downloaded on April 06,2024 at 09:25:49 UTC from IEEE Xplore. Restrictions apply. procedures for identifying the brain tumor. In terms of form and intensity, many different features can be retrieved or identified. Texture-based characteristics may also be retrieved using neural network techniques. The Support Vector Machine is one similar ML approach.[13][14]. Studies clearly show that the continuing improvement of brain tumor identification utilizing MRI scan technology for processing may help physicians and practitioners contribute more to brain tumor diagnosis and recovery therapies. Because MRI detects brain tumors using high-resolution pictures, it may also be viewed as an effective image processing approach.