Brain Structure Functionality in Neuro-Pathological Conditions Using Advanced Computational Biology and AIML *(Tools and Technology in Brain Disease)*

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Abstract

Brain structure functionality in neuro-pathological conditions using advanced computational biology and AIML involves leveraging cutting-edge technologies to diagnose and monitor brain diseases such as Parkinson's and Alzheimer's. Neurodegenerative conditions like these result in the loss of dopamine, which subsequently leads to dysfunctional motor functions, cognitive impairment, and decision-making deficits. The latest computational biology, combined with Artificial Intelligence and Machine Learning (AIML), provides new horizons for the diagnosis and monitoring of these neurological disorders. This study investigates the use of a brain chip implanted in regions of low dopamine levels to analyze neural activity and functional changes. Using AIML methods, real-time brain scans are processed to identify abnormalities, forecast disease progression, and devise optimal treatment regimens. The research emphasizes techniques like deep learning pattern recognition algorithms, neuroimaging techniques (fMRI, EEG), and bioinformatics methods for processing. This integration is expected to enhance early diagnosis, improve patient prognosis, and lay the foundation for precision medicine in neurological disorders.