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Psychological Analysis of Alzheimer's Disease Using Neuroimaging and Histograms SUERYUN LEE, JIMIN DAVID SHIN, CHRISTINE CHO, Choice Research Group — Alzheimer's is becoming a more common physical and psychological disease in this day and age. Alzheimer's disease is a progressive neurodegenerative disorder characterized by the gradual onset of dying brain cells; and is the most common type of dementia. Neuroimaging is studied for the removal of the causes of a syndrome, brain tumors, and cerebrovascular disease. An integral part of the clinical assessment of patients with suspected Alzheimer's is based on magnetic resonance through scanned images. In this paper, image-processing algorithms were developed to determine the frequency information and corresponding histograms. MRI images of a brain affected with Alzheimer's disease were used to measure the changes in data. A different k-space and corresponding histogram were observed in brains of different stages of Alzheimers Disease. The information obtained was used to find the patterns of the k-space of the brain images affected by the disease. Since the frequency data of the brain with Alzheimer's disease produced through the MRI process is in a large magnitude, a proper filter function was used to show that not all of the data is necessary when producing the required information.

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