

Automated subcortical brain segmentation using multispectral MRI for improved AD diagnosis and disease tracking

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United Kingdom

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Automated subcortical brain segmentation using multispectral MRI for improved AD diagnosis and disease tracking

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Research Abstract

One of the earliest changes in the brains of people with Alzheimer's disease (AD) is the shrinking of a structure called the hippocampus. This shrinkage can be measured using magnetic resonance imaging (MRI). Using standard MRI you can see some of the boundaries of some structures clearly (like the hippocampus) but other structures are harder to see because they appear similarly bright to neighbouring structures. This makes measuring their size

challenging. Different kinds of MRI scan can be taken however, which give complimentary information about the brain structure and health of the tissue. This project aims to combine information from multiple MRI scan types for better visualization of boundaries of brain structures known to be affected in AD allowing for more accurate measurements of size in those structures. The added value of the shape of structures and their tissue health over and above sizes will also be assessed, maximising the amount of information extracted from the scans. This is important as it will allow us to better understand how AD affects different brain structures over time, may aid with diagnosis using non-invasive techniques and may be useful for measuring the effect of AD treatments.

Further information available at:

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Investments < €500k

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United Kingdom

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