

Dissertation release

21.11.2014

Machine learning techniques for tissue segmentation and information retrieval from brain images

Title of the dissertation	Advances in Analysis and Exploration in Medical Imaging
Contents of the dissertation	<p>With an ever increasing life expectancy, diseases capable of disrupting normal cognitive processes have become a major problem. Their diagnoses are difficult, and occur usually after daily living activities have already been compromised. This leads to serious costs in health care, and a significant decrease in quality of life.</p> <p>This dissertation proposes a set of machine learning methods, useful for the study of the neurological implications of brain lesions. Two main research directions are proposed. The first, a brain tissue segmentation approach, identifies brain tissues, and provides early lesion detection.</p> <p>The second, a document mining framework, is applied to neuroscientific publications. This framework allows for an intelligent harvesting and summarisation of research results dealing with neural activity. The aforementioned research directions are based on the retrieval of consistent information from neuroimaging data.</p>
Field of the dissertation	Information and Computer Science, Neuroinformatics
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