



**The Department of Mathematics, Statistics and Computer Science
St. Francis Xavier University**

presents

Localization and Segmentation of Tumors in Magnetic Resonance Images

by

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The process of manually generating precise segmentations of tumors from Magnetic Resonance Images, MRI, is time-consuming and error-prone. Development and application of algorithms to segment tumors in MRIs can improve or complement the manual segmentations done by medical experts, but not replace them. We present some of those algorithms. The performance of the algorithms on the publicly available Brain Tumor Image Segmentation, BRATS, MRI benchmark database is evaluated. A database of anonymized MRIs of uveal melanoma is also being created and the algorithms are being applied to that database, in a multidisciplinary collaborative research with radiologists and medical experts of a University Hospital.