Project title: Automating the Classification of Ductal Breast Carcinoma

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Ductal breast carcinoma is the malignant tumor with the highest incidence rate in Canadian women. Despite its high frequency, incidence rates have stabilized since 1999 whereas mortality rates have been steadily decreasing. These encouraging statistics are a testament to the diagnostic and treatment methods currently in place. Tumor classification plays an important role in determining patient prognosis and preferred treatment procedures. The Nottingham modification of the Scarff-Bloom-Richardson grading system has become the standard for pathologists since 2002, being recommended by International Union against Cancer and the World Health Organization. We intend to develop software that will analyze pathological images of breast tissue, thus classifying the tumor following the Nottingham modification of the Scarff-Bloom-Richardson guidelines. If put into practice, such software will increase a pathologist’s efficiency, thus allowing them to evaluate more cases in a given work day, and would provide repeatable and standardized classification to their patients.