JEB 1433H: MEDICAL IMAGING - SYLLABUS FOR WINTER 2024

BASIC COURSE DESCRIPTION

This course aims to introduce students of varying backgrounds to the mathematical methods in modern medical imaging: the inverse problems which need to be solved to yield next generation imaging modalities as well as the advanced techniques for processing and analysis of existing images.

This year much of the focus will be on the recent advances in Deep Learning approaches to these imaging problems.

We will also discuss one-on-one the choice of a project that applies what we learned in class with a topic tailored to your interests. There will be oral project presentations towards the end of the course (with written reports to be handed in at the same time). In the past, these have been great opportunities to learn from fellow classmates about additional aspects of Medical Imaging.

INSTRUCTOR

Professor Adrian Nachman

EMAIL

nachman@math.toronto.edu

WEEKLY MEETING

Thursday 10-1, MY 480 (first meeting January 11)

COURSE MARKS

45% oral presentation, 45% written project report, 10% attendance.

LAND ACKNOWLEDGEMENT

We wish to acknowledge this land on which the University of Toronto operates. For thousands of years it has been the traditional land of the Huron-Wendat, the Seneca, and most recently, the Mississaugas of the Credit River. Today, this meeting place is still the home to many Indigenous people from across Turtle Island and we are grateful to have the opportunity to work on this land.