BIOF 399: Deep Learning for Healthcare Image Analysis

In this course, students will learn how to apply Convolutional Neural Networks (CNNs) to MRI scans to perform a variety of medical tasks and calculations. Upon completion of this course, students will be able to apply CNNs to MRI scans to conduct a variety of medical tasks. INDIVIDUAL LAPTOP IS NEEDED FOR EACH CLASS (Mac, Linux or Windows).

Learning Objectives

- Understand how to use popular image classification neural networks for semantic segmentation
- Use the popular R programming language with deep learning framework MXNet to create a powerful GPU accelerated convolution neural network (CNN) solution for quantitative medical image analysis
- Use deep-learning techniques to predict genomic biomarkers from medical image analysis
- Explore other areas of innovation and research
- Get hands-on guidance to try many different deep-learning frameworks

Credits: 2
Class Type: Graduate Course
Prerequisites:
Previous programming experience is not required, but is recommended.
Program: Bioinformatics and Data Science