

# Deep Learning with Healthcare Genomics

## Course Description

**Course Duration**  
8 Hours

### Overview

This full-day workshop covers image classification with DIGITS, how to predict radiomics using Keras and Tensorflow, and how to use the dragoNN toolkit on real genomics data.

### Course Outline

- Image Classification with DIGITS
- Image Classification with TensorFlow: Radiomics - 1p19q Chromosome Status Classification with Deep Learning  
Learn how to detect the 1p19q co-deletion biomarker using deep learning (specifically CNNs) using Keras and TensorFlow in order to predict Radiomics.
- Deep Learning for Genomics using DragoNN with Keras and Theano  
Explore using the dragonn toolkit on simulated and real regulatory genomic data, demystify popular DragoNN architectures and learn how to model and interpret regulatory sequence using DragoNN models.

### Course Delivery Options

This course is currently available in the following formats:



**MR-1CN-DLHG:** Instructor led - includes hands-on lab exercises that reinforce the concepts covered in lectures.



**MR-1LN-DLHG:** Online ILT - Live course delivered via the internet where participants attend virtual classroom interacting with instructors and other participants. A headset with microphone is **REQUIRED** to speak with the instructor and the rest of the class. Text communication is also available through the virtual classroom.

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