

Renal Group Reader Training

Summary

This page describes the training steps utilized by the [TCGA Renal Phenotype Research Group](#) to develop and test their [Renal Image Feature Scoring Project](#). These instructions describe the process used to setup the Amazon cloud instances. If you are an active reader on this project please refer to the [TCGA Research on the Cloud](#) page as these steps have already been completed for you.

Getting the data

To sign up for access to TCIA please do the following:

1. Go to <http://cancerimagingarchive.net>
2. Click the "Log in to the Cancer Imaging Archive" box next to the rotating banner.
3. Click "Register now" underneath the login section (this is not the same account as the old NBIA site). During normal business hours you should receive confirmation that your account is ready within an hour.

Downloading the data:

After receiving notification that your registration is complete and obtaining permission from the TCIA Helpdesk, [log in to TCIA](#) and choose the Simple Search and scroll down to the "Collection" search criteria.

Training data can be found in the **Renal Training** collection, however this collection is restricted at this time. If you wish to practice prior to scoring real TCGA cases using this data please notify the [TCIA Helpdesk](#) to request permission to access the 8 subjects the groups used for training.

The real data is located in the TCGA-KIRC collection. Please contact the [TCIA Helpdesk](#) if you have trouble downloading the data.

Installing the required software

Note: If you have an old version of ClearCanvas, uninstall it from your computer and reboot before beginning these steps

1. Download ClearCanvas w/ AIM at: http://gforge.nci.nih.gov/frs/download.php/9706/AIM_WS_3.0.4.3.rar
2. Extract the .RAR file (If you don't have software for unzipping .RAR files you can [install 7zip](#) for free)
3. Once extracted, run the "TCGAClearCanvasSetup_x86.msi", hit "next" several times until completion
4. Restart your computer
5. Verify the installation was successful by taking these steps:
 - a. Go to the Start Menu and/or desktop icon and start ClearCanvas
 - b. Enter your name and user name (this feature is not currently connected to TCIA authentication but we suggest you use your TCIA user name here)
 - c. Click on the "My computer" tab near the top left corner of the program
 - d. Browse to where you've downloaded your DICOM data from TCIA
 - e. Right click the folder which holds the data and choose either "Open" or "Import"
 - i. "open" will just load the data one time
 - ii. "import" will store the study under the "DICOM" tab so that you don't have to repeat these steps again later (they will now show up in the "My studies" window under the DICOM tab)

Testing the AIM Template

1. A summary of the features is posted at: [Renal Feature Key](#).
2. Download the AIM template: [tcga-renal-aim-09-13-12-complete.xml](#). Right click and choose "Save as" or else it may just display the XML file in your browser.
3. Run ClearCanvas and load a test case
 - a. Double click the ClearCanvas icon on your desktop or open it from your Start menu
 - b. Enter your login information (see "ClearCanvas sign-on" table below for your user name) if you haven't already
 - c. Verify your AIM settings
 - i. From the menus at the top, choose Tools > Options
 - ii. Verify that the following 2 check boxes are checked (Store New Annotations Locally, Require User Information) and that Require Graphic Markup in Annotation is *not* checked.
 - d. Click on the "My computer" tab near the top left corner of the program
 - e. Browse to where you've downloaded your DICOM data
 - f. Right click the folder which holds the data and choose either "Open" or "Import"
 - i. "open" will just load the data one time
 - ii. "import" will store the study under the "DICOM" tab so that you don't have to repeat these steps again later (they will now show up in the "My studies" window under the DICOM tab)
 - g. Open a study
 - h. Click the "AIM Annotation" button – note there are several buttons that mention AIM, you want the one that just says "AIM" in the icon.
 - i. Now click the AIM Template button in the new side bar that appeared, and point it to the XML file you downloaded in step 3 (you only have to do this once, and it will automatically use this template on all cases from now on unless you choose a new one)
4. Begin reading cases assigned to you (see table below)
 - a. For each case use the appropriate form to evaluate available imaging (Protocol - once per case), tumor related features (Tumor - once per case for largest tumor), and enhancement features (Enhancement - once per enhancement phase per enhancing entity, total of possible 12 scores)
 - i. Consult the [How To Guide - Reading Renal Cases with Clearcanvas](#) for more information on using the AIM templates to evaluate the cases