Instructions for Running the GAIN Prototype

1. GAIN was developed in Linux using Matlab (versions R2012a and R2015a) and uses functions in the Matlab Image Processing toolbox. The GUI has not been included.

2. GAIN image input is in the form of a single file containing a pair of images, the first image being of cell bodies and neurites and the second image being of nuclei. The images must be the same size. The program createImagePair.m can be used to create a paired-image file from images in two different files.

3. Run the program in processImage.m which takes the name a file of paired images as its only argument. To alter GAIN's parameter values, edit lines 8 through 17 of processImage.m. The Branch Point Distance parameter must be set separately by editing line 19 of the computeLongPaths.m file and setting the junctionSpan variable.

4. Results are placed in a folder (directory) named ExampleResults. The output.tif file contains visual results. Table output is placed in a file whose name ends in "-results.csv". Note that the "Cell" column identifying cell clusters in output.tif contains numbers whereas the cell clusters are lettered in output.tif.