GIS4112 Data and Data Representation
Micro Assignment

Part A: Using Descriptive analytics for image conversion

Method:

1. Get familiar with the Otsu thresholding for converting a greyscale image to monochrome. See this website for details. http://www.labbookpages.co.uk/software/imgProc/otsuThreshold.html
2. Follow these steps in your task
    a. Apply a threshold (histogram can be used in determining this)
    b. Calculate weight, mean, variance for background
    c. Calculate weight, mean, variance for foreground
    d. Calculate within-class-variance
    e. Repeat the calculation of within-class-variance for all possible thresholds in your histogram (A faster approach is to calculate between-class-variance)
    f. Specify the best threshold
3. Use R to implement the pseudo algorithm to calculate threshold using Otsu's method
4. First try your R script on OntarioCDs$Pop2001 data
5. Then apply we will apply it to satellite image (Data will be provided for this.

Note: You are not to submit this yet, we will build this up as we progress.

...**Part B: TBD**