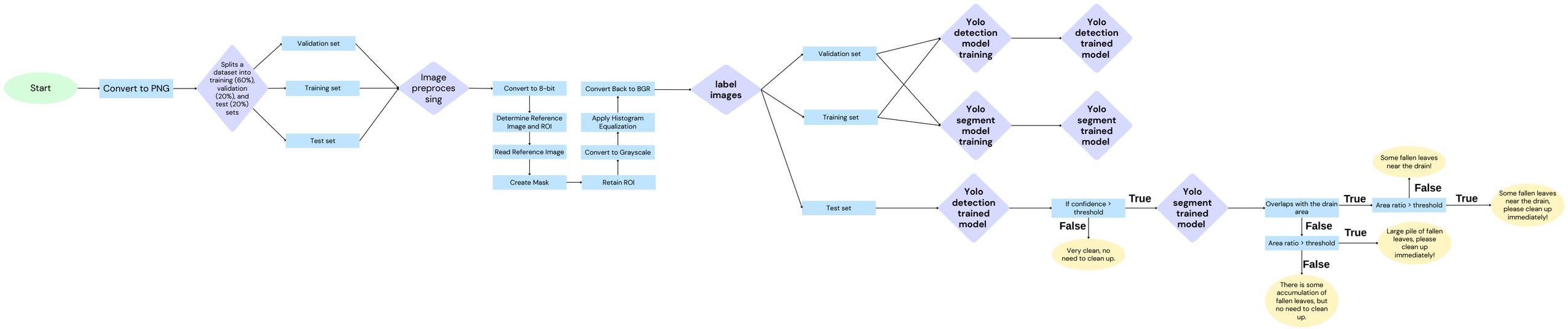
FLOW CHART


Start
Convert to PNG
Splits a dataset into training (60%), validation (20%), and test (20%) sets
Validation set
Training set
Test set
Image preprocessing
Convert to 8-bit
Determine Reference Image and ROI
Read Reference Image
Create Mask
Retain ROI
Convert to Grayscale
Apply Histogram Equalization
Convert Back to BGR
label images
Validation set
Training set
Test set
Yolo detection model training
Yolo segment model training
Yolo detection trained model
Yolo segment trained model
Yolo detection trained model
If confidence > threshold
True
False
Very clean, no need to clean up.
Yolo segment trained model
Overlaps with the drain area
True
False
Area ratio > threshold
True
False
Some fallen leaves near the drain!
Large pile of fallen leaves, please clean up immediately!
There is some accumulation of fallen leaves, but no need to clean up.
Area ratio > threshold
True
False
Some fallen leaves near the drain, please clean up immediately!