

Overview:

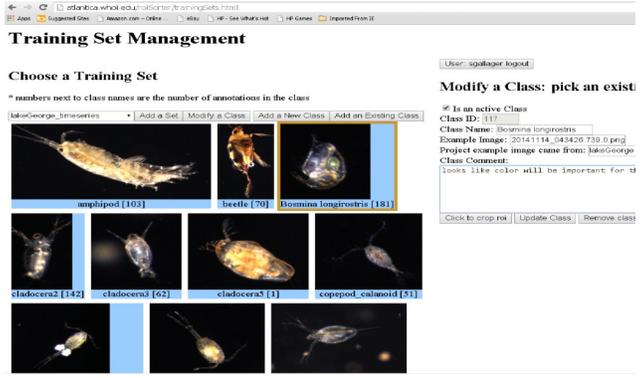
The ROIclass software application is an add-on module that extends the manual capabilities of the ROIsort browser-based application by generating automatic classifications of images that were collected by the CPICS family of instruments. Using the manually classified Region Of Interest (ROI) sets created in ROIsort application are used by ROIclass to build classifiers based on either Support Vector Machines or Random Forests. The user can also select from several types of machine vision descriptors that can represent the image in various ways for the training and running of the classifiers.

Features:

- Selection of features to be extracted from the ROIs such as texture, shape, color, and morphology
- Selection of the training set to be analyzed
- Selection of the classifier to run over the ROI features (Support Vector Machine or Random Forest)
- Extraction and storage in the data base of features separately from classification (e.g., batch extraction of features from a large ROI set)
- Calibration of classification model against a separate manually annotated test set of ROIs
- Creation of Confusion Matrices, canonical analyses, ROC curves, and other characterization statistics of the classification model
- Classify novel (unclassified) ROIs from the stored image data base or from an image stream in real-time

Accessible from anywhere:

Because of its thin-client architecture, users can access ROIclass from any web-enabled device anywhere in the world where there is an Internet connection.



Screen shot of classifier training set selection screen

Requires no customer IT support effort:

The ROIclass software operates on a server at the location of CoastalOceanVision, Inc., freeing you from any local system maintenance effort. The main advantages of this service are the automatic updates of the software as feature extraction and classification code improves, and the elimination of the need to maintain a local server and image data base.