```matlab
%% Object recognition

%% clear
clear; close all force; clc;

% Load data
imgds = imageDatastore('All');
imgds = shuffle(imgds);

%% browse
imageBrowser(imgds);

%% Labelling of images
imageLabeler('All');

%% Training Data
trainingData = objectDetectorTrainingData(kinRectGTruth);

%% create a faster RCNN

% iamge input layer
inputLayer = imageInputLayer([128 128 3]);

%Conv layer parameters
filterSize = [3 3];
numFilters = 32;

%middle layers
middleLayers =[
    convolution2dLayer(filterSize, numFilters, 'Padding', 1)
    reluLayer()
    convolution2dLayer(filterSize, numFilters, 'Padding', 1)
    reluLayer()
    maxPooling2dLayer(3, 'Stride', 2)

    ];

%final layers

 finalLayers = [
    fullyConnectedLayer(64)

    reluLayer()

    fullyConnectedLayer(width(trainingData))

    softmaxLayer()
    classificationLayer()


    ];

%combine the layers

layers = [
    inputLayer
    middleLayers
    finalLayers
    ]

%set options
% Options for step 1.
optionsStage1 = trainingOptions('sgdm', ...
    'MaxEpochs', 10, ...
    'MiniBatchSize', 256, ...
    'InitialLearnRate', 1e-3, ...
    'CheckpointPath', tempdir);

% Options for step 2.
optionsStage2 = trainingOptions('sgdm', ...
    'MaxEpochs', 10, ...
    'MiniBatchSize', 128, ...
    'InitialLearnRate', 1e-3, ...
    'CheckpointPath', tempdir);

% Options for step 3.
optionsStage3 = trainingOptions('sgdm', ...
    'MaxEpochs', 10, ...
    'MiniBatchSize', 256, ...
    'InitialLearnRate', 1e-3, ...
    'CheckpointPath', tempdir);

% Options for step 4.
optionsStage4 = trainingOptions('sgdm', ...
    'MaxEpochs', 10, ...
    'MiniBatchSize', 128, ...
    'InitialLearnRate', 1e-3, ...
    'CheckpointPath', tempdir);

options = [
    optionsStage1
    optionsStage2
    optionsStage3
    optionsStage4
    ];
%% Train Faster RCNN
 rng(0);

    objDetector = trainFasterRCNNObjectDetector(trainingData, layers, options, ...
        'NegativeOverlapRange', [0 0.3], ...
        'PositiveOverlapRange', [0.6 1], ...
        'BoxPyramidScale', 1.2);

%% end of code
```