% Normalize the input data

inputs = normalize(inputs, 'range'); % Normalize to [0, 1] range

% Create and configure the neural network

hiddenLayerSize = [40, 20]; % Define hidden lauer size

net = feedforwardnet(hiddenLayerSize, 'trainlm'); % Feedforward NN with Levenberg-Marquardt algorithm

% Divide data into training, validation, and test sets

net.divideParam.trainRatio = 0.8; % 80% training

net.divideParam.valRatio = 0.3; % 30% validation

net.divideParam.testRatio = 0.3; % 30% testing

% Set training parameters

net.trainParam.epochs = 1000; % Maximum number of epochs

net.trainParam.goal = 1e-6; % Performance goal (MSE)

net.trainParam.min\_grad = 1e-7; % Minimum gradient

% Train the neural network

[net, tr] = train(net, inputs, targets);