

NLLScompare.m

Calls GD, GN, and LM to solve the NLLS problem for PDE

GD.m

Solves the NLLS problem by gradient descend

GaussNewton.m

Solves the NLLS problem by Gauss-Newton

LevenbergMarquardt.m

Solves the NLLS problem by Gauss-Newton

Res_and_Jac.m

Computes the vector of residuals and the Jacobian for the NLLS problem

ActivationFunction.m

Defines the activation function (sigmoid or tanh) and its derivatives

res.m

Computes individual residuals and their gradients

param.m

Extracts v, W, u from the parameter vector

setup.m

Defines the boundary conditions, the right-hand side, the function h that is zero on the boundary, and the exact solution

NN.m

Computes the derivatives of N, N_x, N_y, N_{xx} , and N_{yy} w. r. t. the parameters