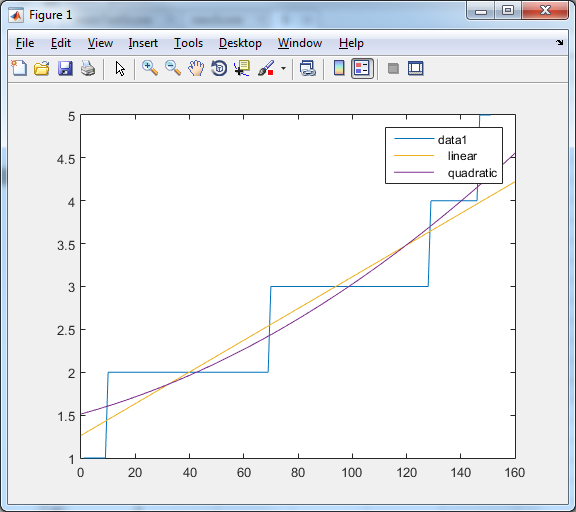
Best lambda for LBP is 18-22

Best lambda for HoG is 14

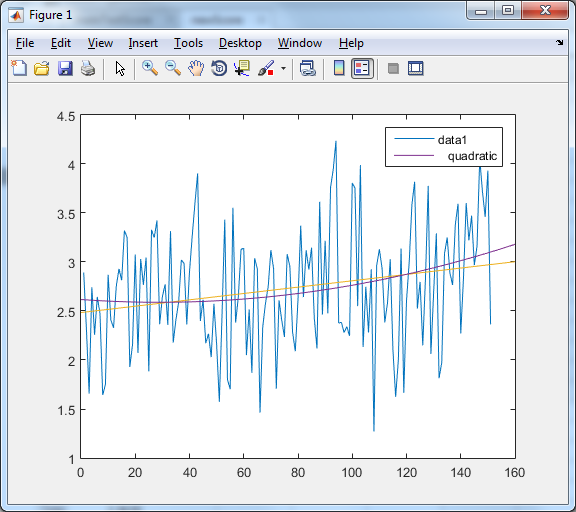
Data range shrink with best lambda

Male results

Result ground truth



1. LBP feature /face size 500 /window Size 18\*18 /lambda 0.001 /ground truth landmark



STD error (lambda = 0.001) = 0.9142

STD error (lambda = 0.01) = 0.9138

STD error (lambda = 0.1) = 0.9104

STD error (lambda = 0.5) = 0.8976

STD error (lambda = 1) = 0.8855

STD error (lambda = 5) = 0.8454

STD error (lambda = 12) = 0.8306

STD error (lambda = 18) = 0.8279

STD error (lambda = 20) = 0.8279

STD error (lambda = 22) = 0.8279

STD error (lambda = 25) = 0.8282

STD error (lambda = 37.5) = 0.8308

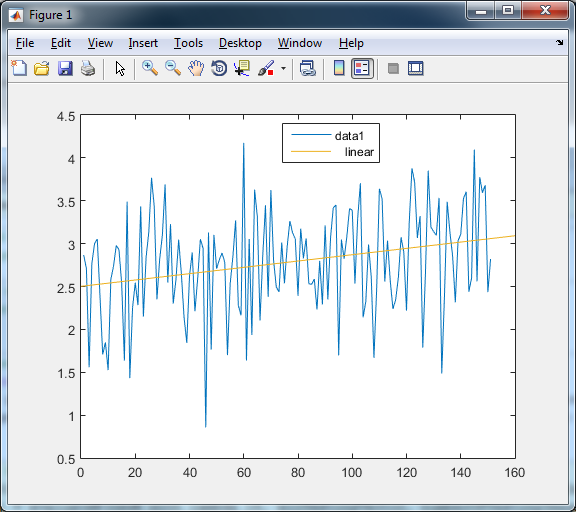
STD error (lambda = 50) = 0.8343

STD error (lambda = 60) = 0.8370

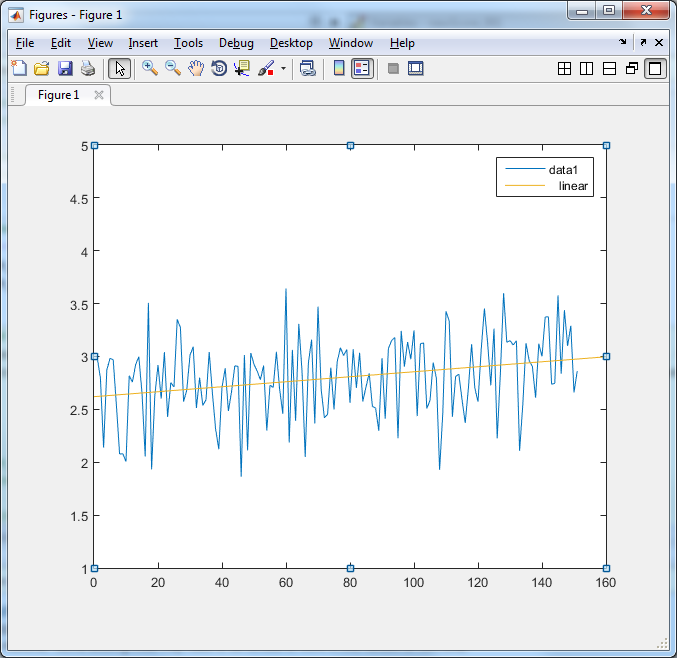
STD error (lambda = 75) = 0.8408

STD error (lambda = 100) = 0.8463

LBP feature /face size 500 /window Size 10\*10 /lambda 0.001 /ground truth landmark



LBP feature /face size 500 /window Size 10\*10 /lambda18 /ground truth landmark



error\_18 =

0.8669

error\_10 =

0.8767

error\_5 =

0.8911

error\_1 =

0.9175

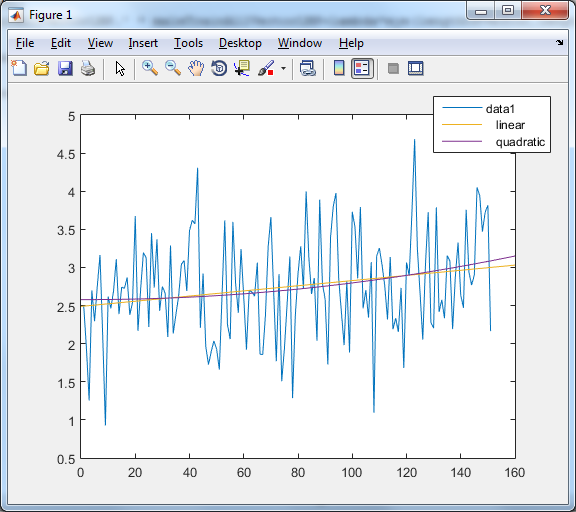
error\_01 =

0.9282

error\_001 =

0.9294

1. LBP feature /face size 500 /window Size 22\*22 /lambda 0.001 /ground truth landmark



error\_18 =

0.8351

error\_10 =

0.8431

error\_5 =

0.8615

error\_1 =

0.9198

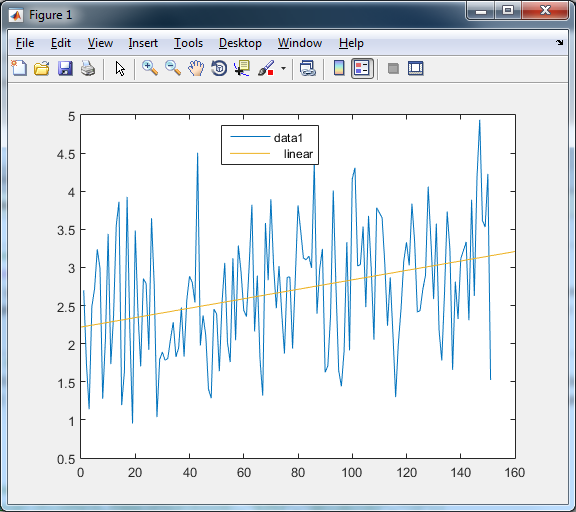
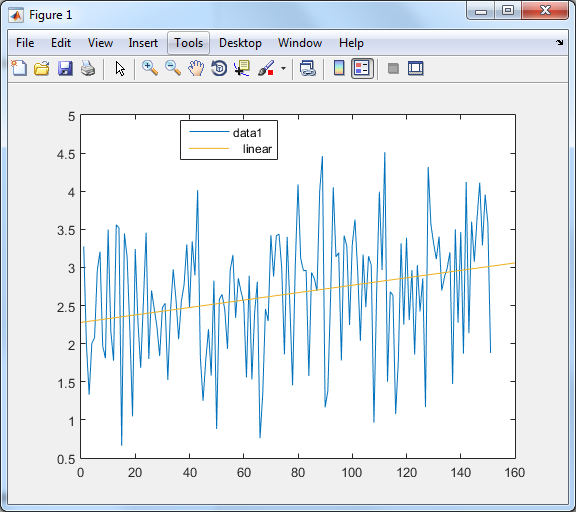
error\_01 =

0.9592

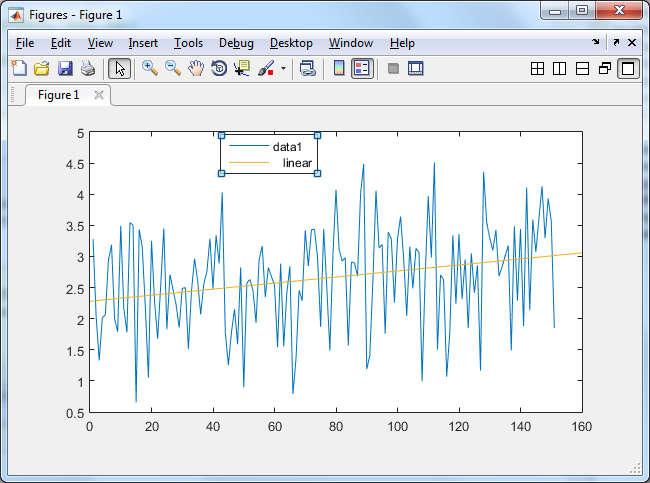
error\_001 =

0.9647

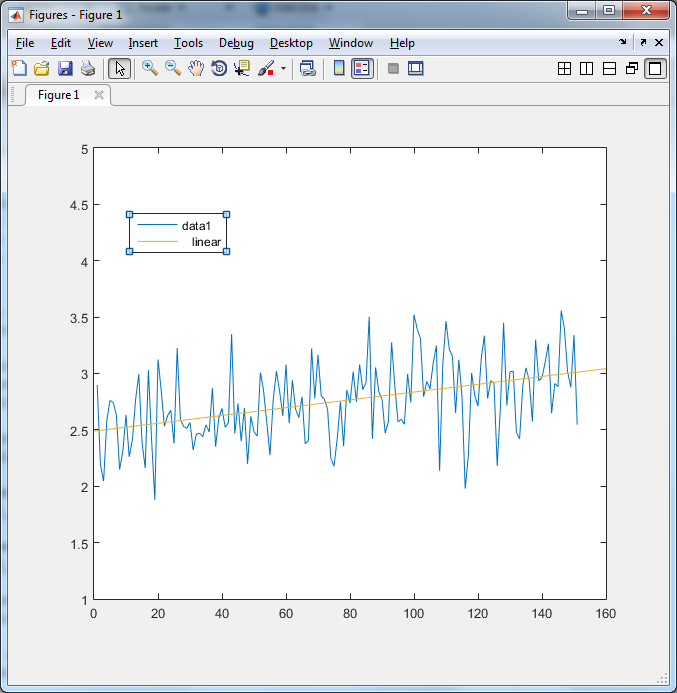
LBP feature /face size 500 /window Size 42\*42 /lambda 0.01 /ground truth landmark 68vs49

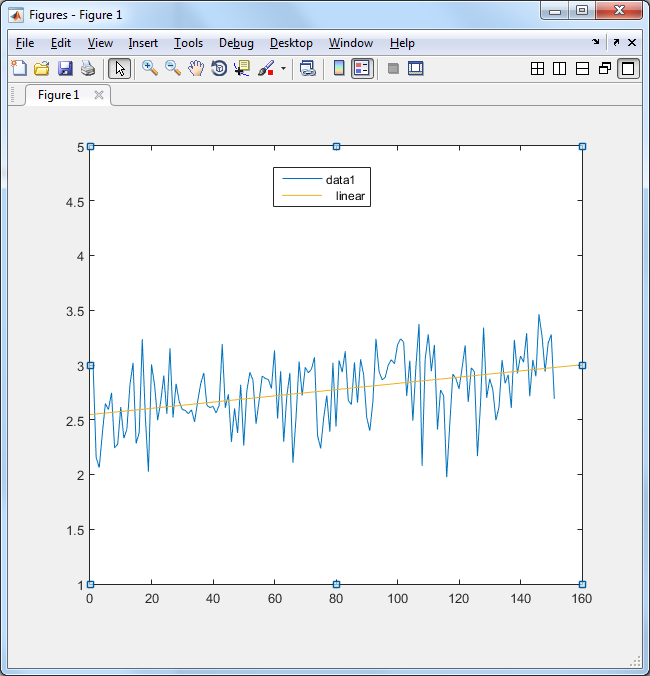
s

With offset

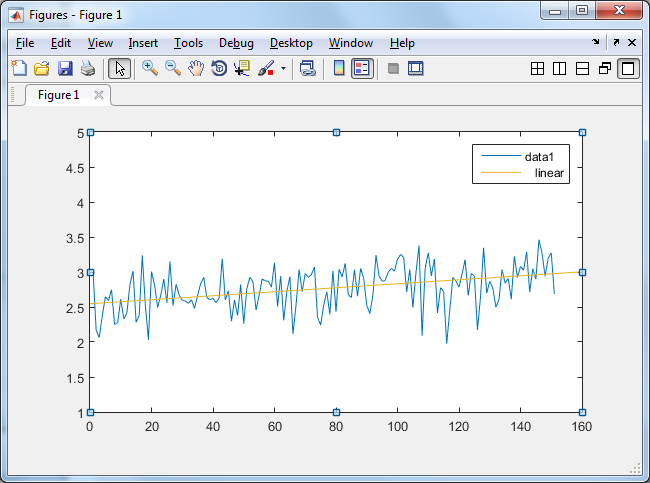


LBP feature /face size 500 /window Size 42\*42 /lambda 18 /ground truth landmark 68vs49





With offset



error\_18 =

0.8129

error\_10 =

0.8131

error\_5 =

0.8214

error\_1 =

0.8836

error\_01 =

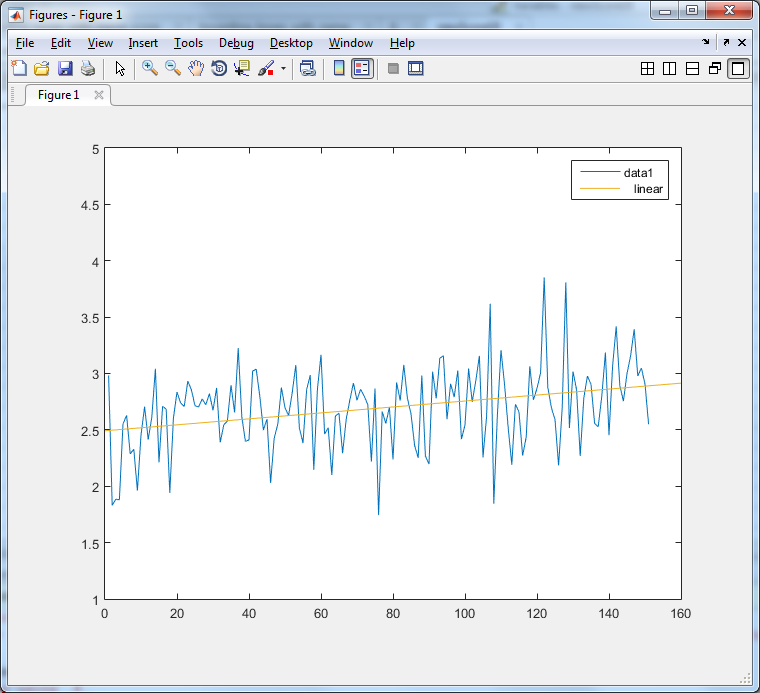
0.9664

error\_001 =

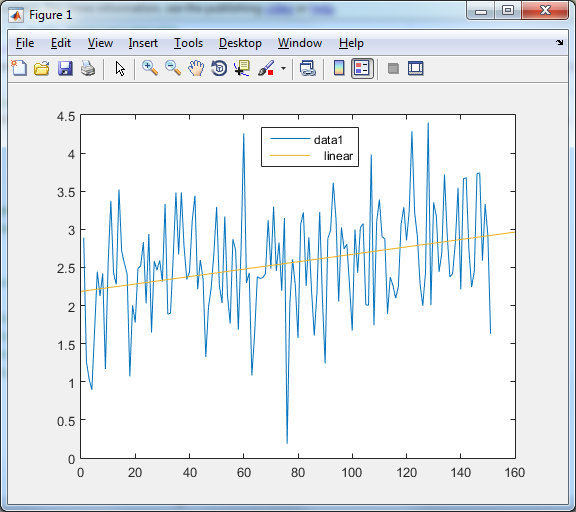
0.9824

Using landmarks from GN\_DPM algorithm

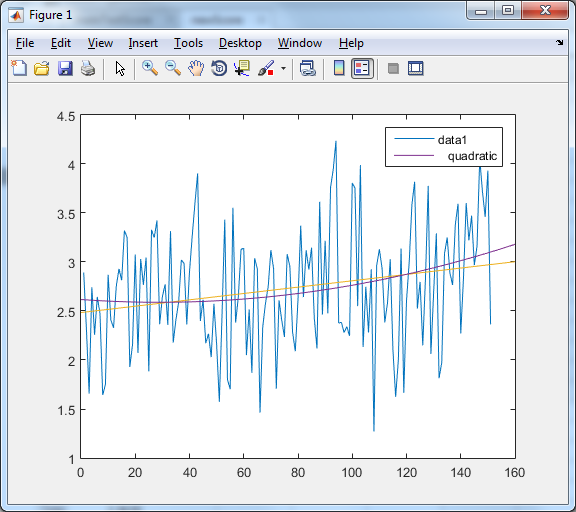
LBP feature /face size 500 /window Size 18\*18 /lambda 18 /calculated landmark



LBP feature /face size 500 /window Size 18\*18 /lambda 0.01 /calculated landmark

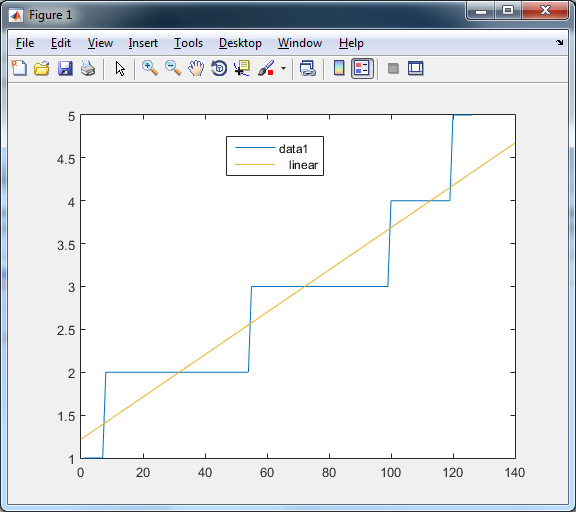


LBP feature /face size 500 /window Size 18\*18 /lambda 0.01 /ground truth

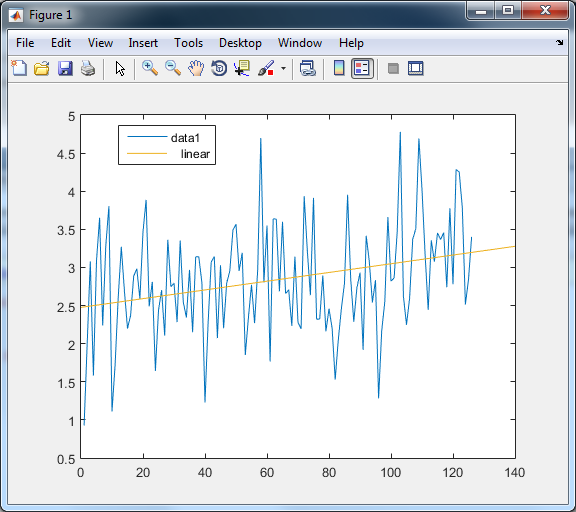


Female results

Result ground truth



1. LBP feature /face size 500 /window Size 18\*18 /lambda 0.01 /ground truth landmark



error\_75 =

0.8965

error\_50 =

0.8862

error\_30 =

0.8774

error\_20 =

0.8747

error\_18 =

0.8746

error\_13 =

0.8763

error\_10 =

0.8795

error\_5 =

0.8946

error\_1 =

0.9438

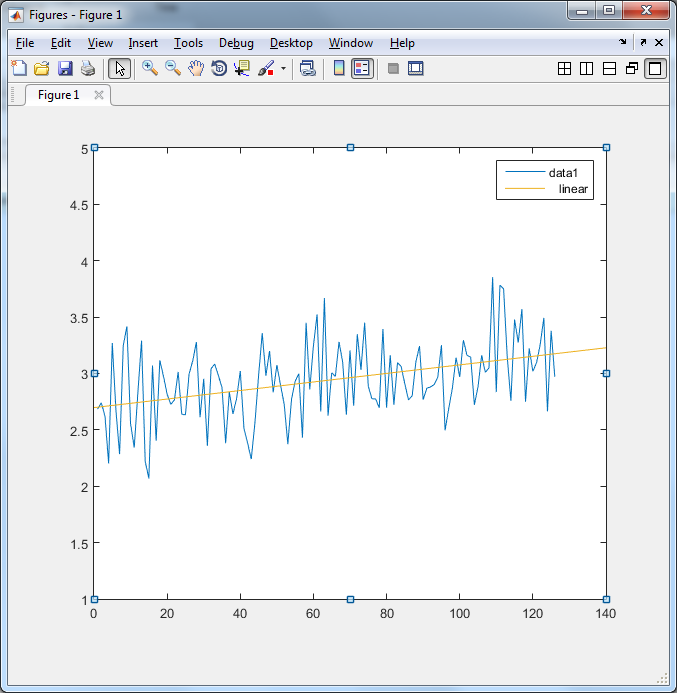
error\_01 =

0.9790

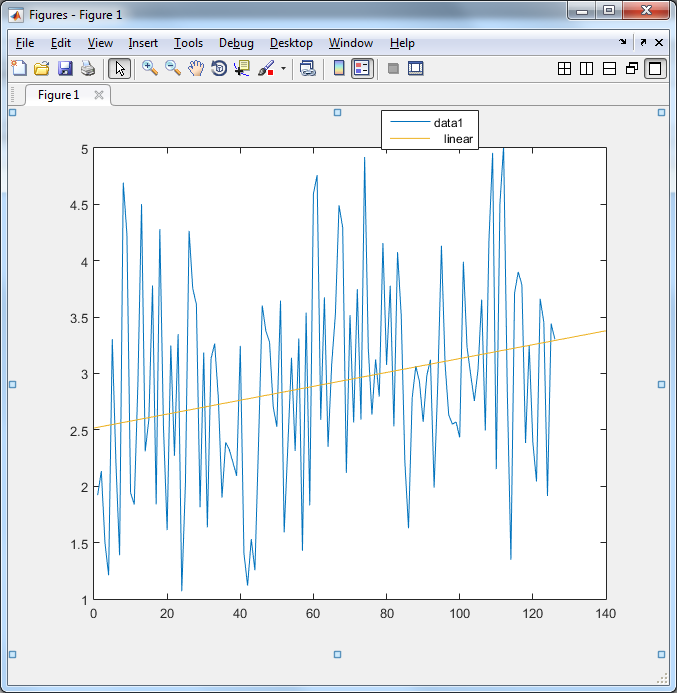
error\_001 =

0.9843

Female HoG feature /face size 500 /window Size 18\*18 /lambda 14 /ground truth landmark



Female HoG feature /face size 500 /window Size 18\*18 /lambda 0.01 /ground truth landmark



error\_75 =

0.9156

error\_50 =

0.9052

error\_30 =

0.8942

error\_20 =

0.8887

error\_13 =

0.8872

error\_10 =

0.8890

error\_5 =

0.9049

error\_1 =

0.9962

error\_01 =

1.1174

error\_001 =

1.1434