

group_project2

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Results

Newton-Raphson

After doing the Newton-Raphson modified with step and direction the estimation of coefficients are:

intercept	0.4870168
radius_mean	-7.2218505
texture_mean	1.6547562
perimeter_mean	-1.7376303
area_mean	14.0048456
smoothness_mean	1.0749533
compactness_mean	-0.0772346
concavity_mean	0.6751231
concave points_mean	2.5928743
symmetry_mean	0.4462563
fractal_dimension_mean	-0.4824842

Table 1. Estimated coefficients under Newton-Raphson method

Cross Validation

The range of λ we tried is (0,17.2088112) , the MSE of each λ is in the Figure 1(a). If the range (0,3) is amplified, we can get the (b) plot. The red dot denotes the $\lambda=0.7088112$ with smallest MSE 0.0433616

Figure 1. MSE vs λ

