Exercise 7 Computational Statistics and Data Analysis Summer Semester, 2020

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You may find the code for this assignment here.

1 Problem 1: Numerical Optimization

(a) MSE = 5.920153095813081

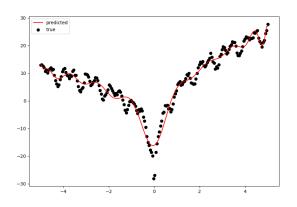


Abbildung 1: Graph for part (a)

- (b) MSE = 2495.3320839207304
- (c) MSE = 3568.3240332006994
- (d) MSE = 1108.147105495679
- (e) Using a sigmoid function with two hidden layers, 3 units per layer, made it worse than when I used the leaky rectified linear unit.

See next page for additional graphs.

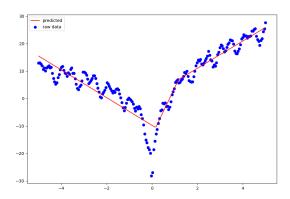


Abbildung 2: Graph for part (b), 1 layer, 7 units

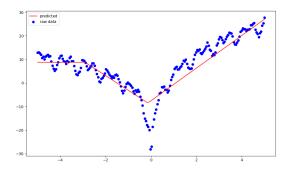


Abbildung 3: Graph for part (c), 2-layer ANN with 3 units per layer

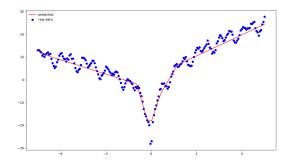


Abbildung 4: Graph for part (d), 2-layer ANN with 7 units per layer

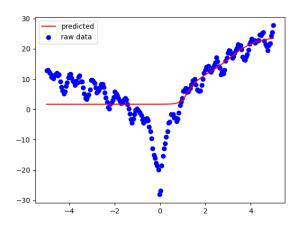


Abbildung 5: Graph for part (d), 2-layer ANN with 7 units per layer