HomeWork4

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I first used LabelEncoder and MinMaxScaler to prepare the data. Then used the 'age', 'sex', 'bmi', 'children', 'smoker', 'region' as features and 'charges' as target. I found the best structure is having 4 Denses, each having 8, 16, 16, 32 and 1 units, respectively, with 100 epochs and 32 as batch-size; Otherwise, over-fitting would be seen from the loss-epochs and mae-epochs plots.

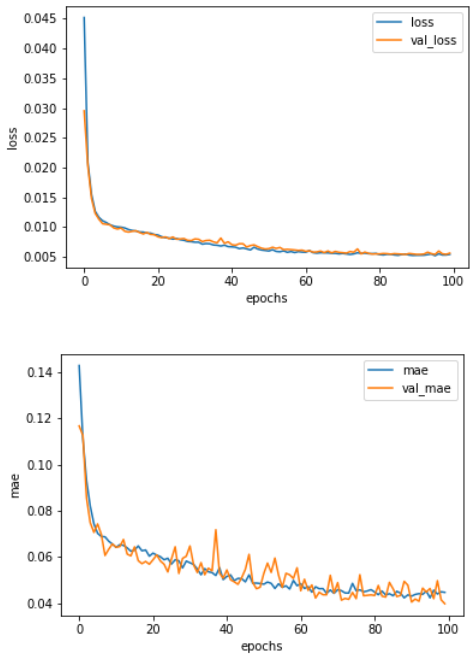

Figure 1: Model's loss and mae plot.

Then I transformed the input data by using Polynomial Features.

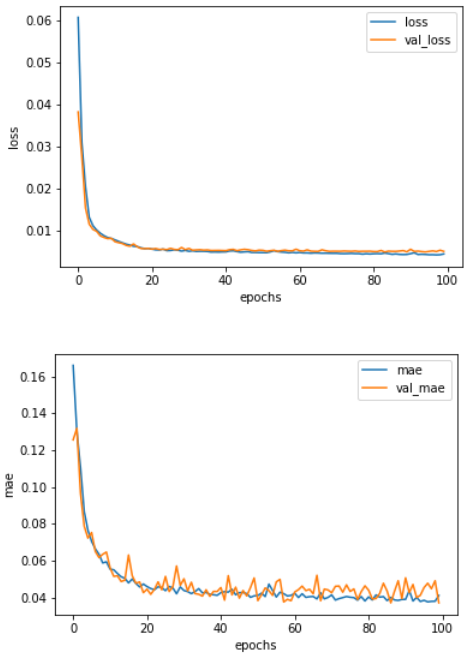

Figure 2: Model's loss and mae plot using Polynomial Features.