1.

![Text

Description automatically generated]()

2.

Graphical user interface, text, application, email

Description automatically generated

3.

Looking at the performance of the model on the training and test sets, the model is underfitting the data. This is shown with a negative bias.

4.

Graphical user interface, chart, application

Description automatically generated

5.

Looking at the plot, we can improve the fit of the model marginally by adding more training instances. The improvement would not be as significant and indicates an overfitting of the model.

6.

Adding the age feature did not improve the performance of the model. This is due to the underfitting of the data and the variable of age adding to the underfit.

7.

Graphical user interface, chart, scatter chart

Description automatically generated

8.

The polynomial did fit better in some parts. On the far left, the cubic fit did not fit well due to the extreme curve. It fits best as you go right in the data, with the best fit line being on the far right.

9.

Graphical user interface, chart, scatter chart

Description automatically generated

10.

While the power 8 may look better in regards to fitting the data (especially on the far left), it is less normalized than the power 3 fit. With the line less normalized, there is a higher chance of overfitting the data.

11.

Graphical user interface, chart, scatter chart

Description automatically generated

12.

The regular fit has the middle coefficients closer to zero. This tells us that the data is most likely underfit.