



Figure 1: png

## Names

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## Model

We chose a polynomial of the third degree as our model. The resulting theta values were:

```
[ 2.13743842e-02  9.33400471e+00 -2.78687921e+01  1.83665416e+01]
```

## Alpha Value

Choosing different alpha values can speed up the learning process in that fewer iterations are required to get a reasonable approximation. But large alpha values can also lead to the resulting function being a worse estimation as the step size is too large to get close to the correct function.

- 0.005 only produce good results for large numbers of iterations ~10.000
- 0.05 produced good approximations faster
- 0.5 still yields a decent approximation in just 5.000 iterations

- 0.8 produces bad results regardless of the number of iterations

A reasonable alpha value would be 0.5.