

**Description :**

Figure showing a *robust* ***linear***fit between the selling price and the cars mileage in cities for all vehicle types.

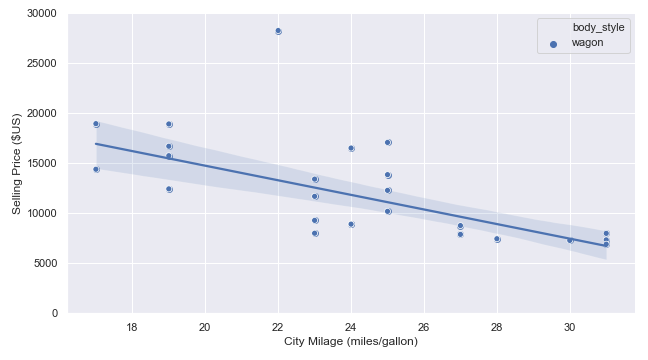
**Sources:**

Simple\_regression\_example\_using\_parametric\_and\_non\_parametric\_methods.ipynb

Parametric fit (Linear fit) all cars.png

Parametric fit (Linear fit) all cars.pdf

**------------------------------------------------------------------------------------------------------------------------------------------**



**Description :**

Figure showing a *robust* ***linear*** fit between the selling price and the cars mileage in cities for wagon vehicles only.

**Sources:**

Simple\_regression\_example\_using\_parametric\_and\_non\_parametric\_methods.ipynb

Parametric fit (Linear fit) wagon cars.png

Parametric fit (Linear fit) wagon cars.pdf

**------------------------------------------------------------------------------------------------------------------------------------------**

**Description :**

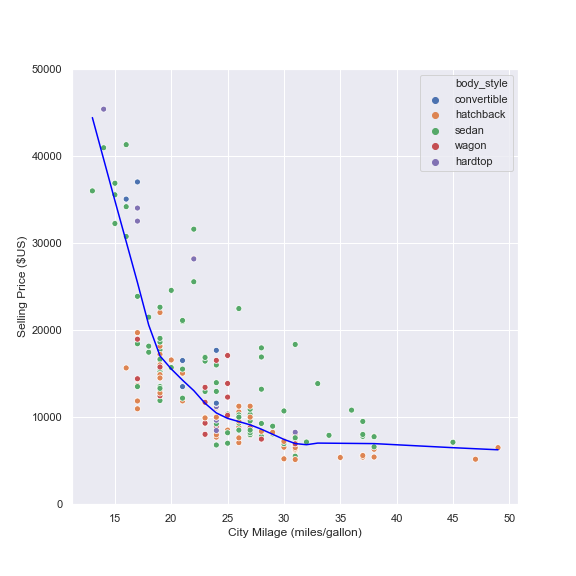
Figure showing a *robust* ***non-linear*** fit between the selling price and the cars mileage in cities for all vehicle types.

**Sources:**

Simple\_regression\_example\_using\_parametric\_and\_non\_parametric\_methods.ipynb

Non-parametric fit (LOWESS) all cars.png

Non-parametric fit (LOWESS) all cars.pdf



**------------------------------------------------------------------------------------------------------------------------------------------**

**Description :**

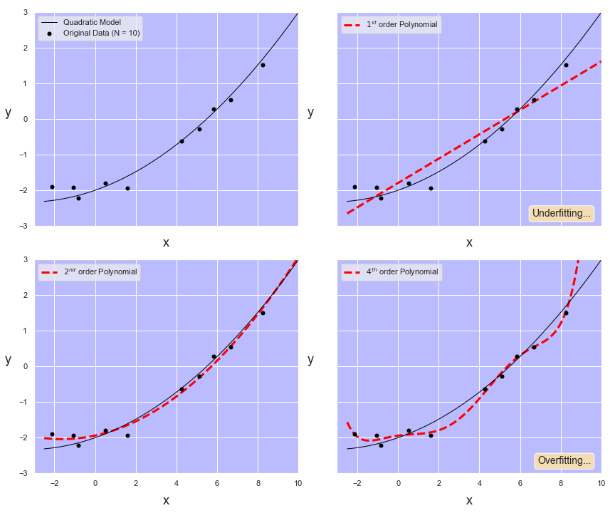
Figure showing the effect of polynomial order on fits with a **small** dataset and a **small** noise level.

**Sources:**

genere\_regression\_examples\_with\_polynomial\_of various\_orders.ipynb

Polynomial\_fits\_with\_small\_N\_and\_small\_sigma.png

Polynomial\_fits\_with\_small\_N\_and\_small\_sigma.pdf



**------------------------------------------------------------------------------------------------------------------------------------------**

**Description :**

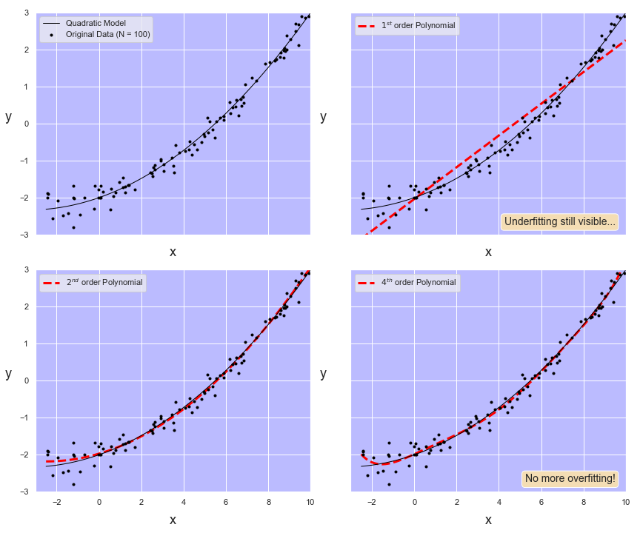
Figure showing the effect of polynomial order on fits with a **large** dataset and a **small** noise level.

**Sources:**

genere\_regression\_examples\_with\_polynomial\_of various\_orders.ipynb

Polynomial\_fits\_with\_large\_N\_and\_small\_sigma.png

Polynomial\_fits\_with\_large\_N\_and\_small\_sigma.pdf



**------------------------------------------------------------------------------------------------------------------------------------------**

**Description :**

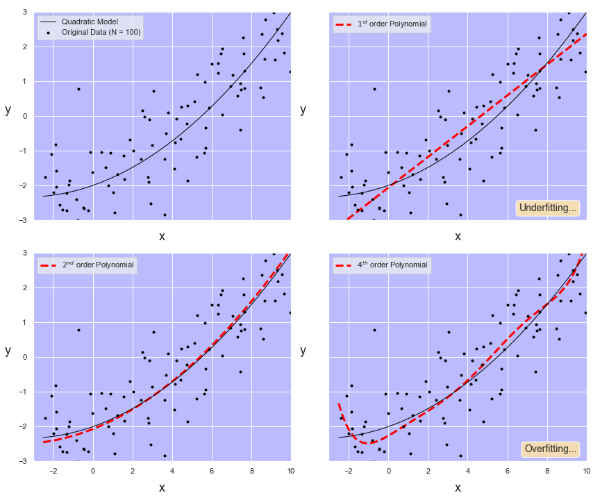
Figure showing the effect of polynomial order on fits with a **large** dataset and a **large** noise level.

**Sources:**

genere\_regression\_examples\_with\_polynomial\_of various\_orders.ipynb

Polynomial\_fits\_with\_large\_N\_and\_large\_sigma.png

Polynomial\_fits\_with\_large\_N\_and\_large\_sigma.pdf



**------------------------------------------------------------------------------------------------------------------------------------------**

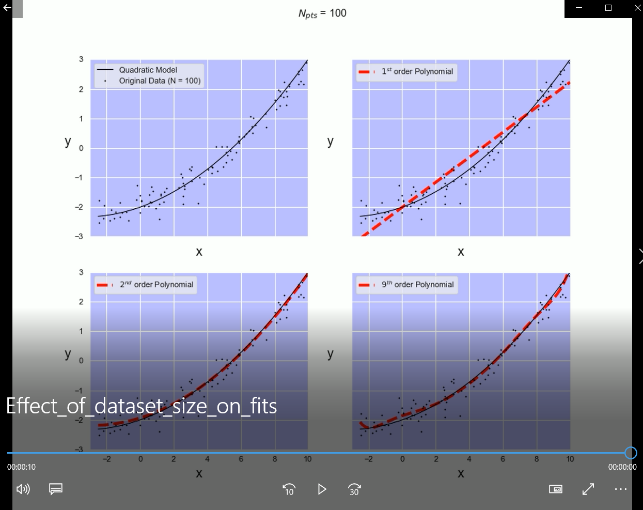
**Description :**

Video showing the effect of polynomial order on fits with a **large** dataset and a **small** noise level.

**Sources:**

genere\_regression\_examples\_with\_polynomial\_of various\_orders.ipynb

Effect\_of\_dataset\_size\_on\_fits.avi



**------------------------------------------------------------------------------------------------------------------------------------------**

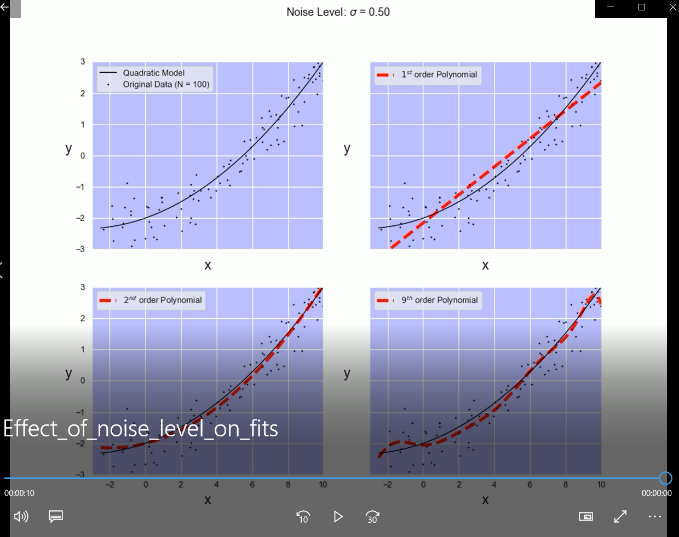
**Description :**

Video showing the effect of noise level on fits with a **large** dataset.

**Sources:**

genere\_regression\_examples\_with\_polynomial\_of various\_orders.ipynb

Effect\_of\_noise\_level\_on\_fits.avi



**------------------------------------------------------------------------------------------------------------------------------------------**

**Description :**

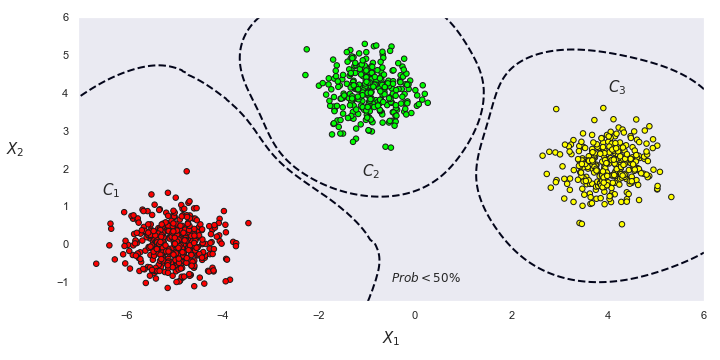
Figure the 50% boundaries for the maximum *a posteriori* probability 𝑃(𝐶𝑖|𝑋)P(Ci|X).

**Sources:**

example\_of\_bayesian\_classification.ipynb

Bayesian classification, 50% contours.png

Bayesian classification, 50% contours.pdf



**------------------------------------------------------------------------------------------------------------------------------------------**

**Description :**

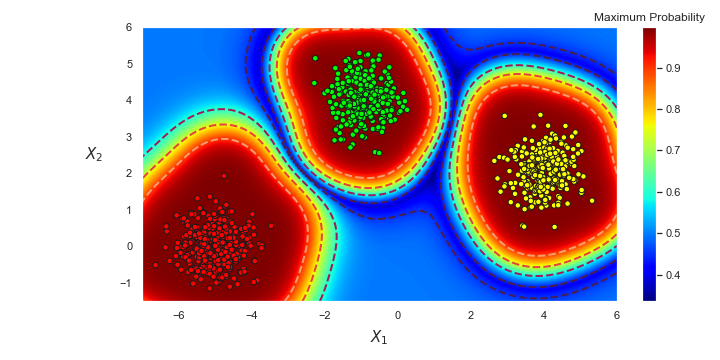
Figure showing the maximum value of the local *a posteriori* probabilities 𝑃(𝐶𝑖|𝑋)P(Ci|X).

**Sources:**

example\_of\_bayesian\_classification.ipynb

Bayesian classification, maximum probabilities.png

Bayesian classification, maximum probabilities.pdf



**------------------------------------------------------------------------------------------------------------------------------------------**

**Description :**

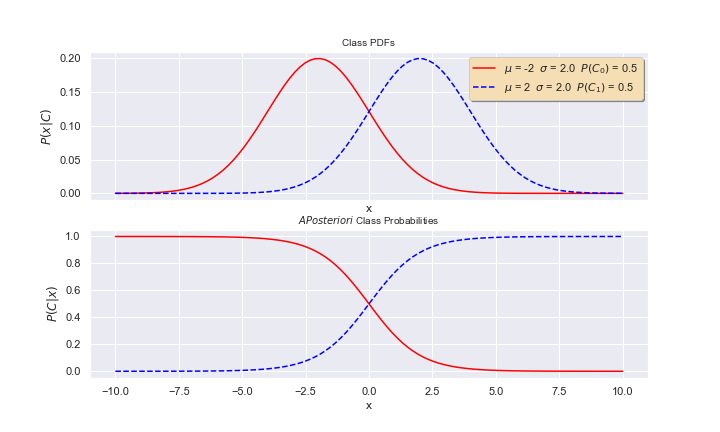
Easy 1-D example of Bayesian classification.

**Sources:**

examples\_of\_1D\_Bayesian\_classifications.ipynb

Easy 1-D Bayesian classification.png

Easy 1-D Bayesian classification.pdf



**------------------------------------------------------------------------------------------------------------------------------------------**

**Description :**

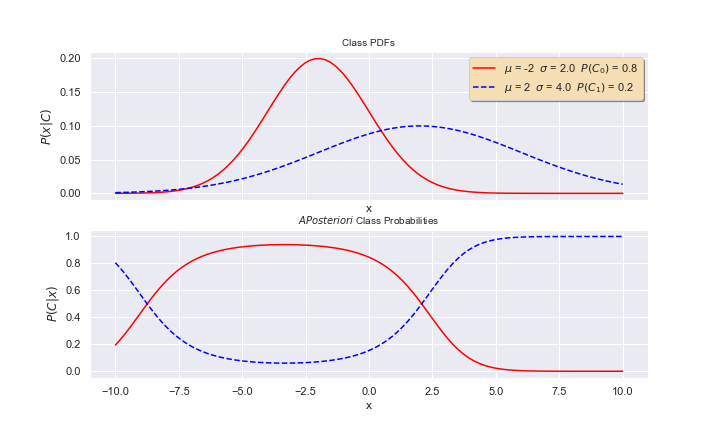
Hard 1-D example of Bayesian classification.

**Sources:**

examples\_of\_1D\_Bayesian\_classifications.ipynb

Hard 1-D Bayesian classification.png

Hard 1-D Bayesian classification.pdf



**------------------------------------------------------------------------------------------------------------------------------------------**

**Description :**

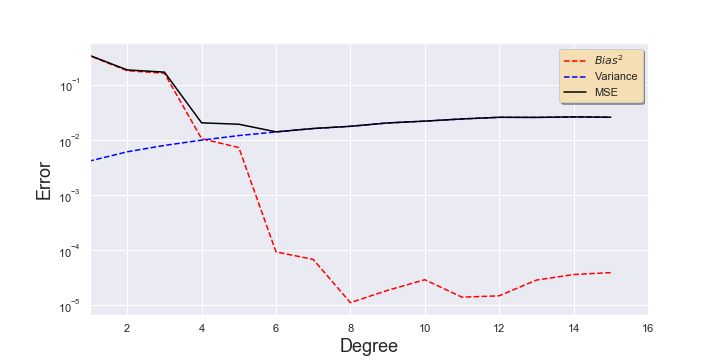
Explanation of the MSE, Bias and Variance relationship.

**Sources:**

show\_links\_between\_MSE\_overfitting\_and\_underfitting.ipynb

MSE\_Bias\_Variance.png

MSE\_Bias\_Variance.pdf



**------------------------------------------------------------------------------------------------------------------------------------------**

**Description :**

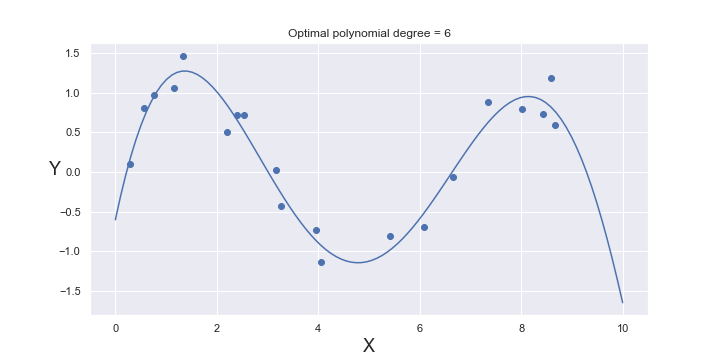
Optimal polynomial fit.

**Sources:**

show\_links\_between\_MSE\_overfitting\_and\_underfitting.ipynb

Optimum polynomial fit.png

Optimum polynomial fit.pdf



**------------------------------------------------------------------------------------------------------------------------------------------**

**Description :**

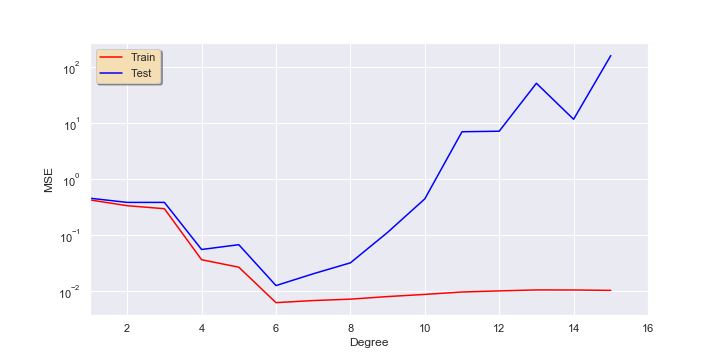
How does the MSE vary with polynomial degree?

**Sources:**

show\_links\_between\_MSE\_overfitting\_and\_underfitting.ipynb

MSE varies with polynomial degree.png

MSE varies with polynomial degree.pdf



**------------------------------------------------------------------------------------------------------------------------------------------**

**Description :**

Various examples of polynomial fits showing bias and variability

**Sources:**

show\_links\_between\_MSE\_overfitting\_and\_underfitting.ipynb

Various examples of polynomial fits.png

Various examples of polynomial fits.pdf

