IN ALL CASES, THE GUESS VECTOR IS DEFINED AS $[c_1, c_2, c_3, ..., c_n]$ AS REQUIRED BY THE FUNCTIONAL FORM.

Cubic

$$y = c_1 x^3 + c_2 x^2 + c_3 x + c_4$$

Exponential

$$y = c_1 \exp(c_2 x) + c_3$$

Gaussian

$$y = c_1 \exp\left(-c_2 (x - c_3)^2\right) + c_4$$

Linear

$$y = c_1 x + c_2$$

Logarithmic

$$c_1 \ln(x - c_2) + c_3$$

Logistic

$$y = \frac{c_1 c_2 \exp(c_3 x)}{c_1 - c_2 + c_2 \exp(c_3 x)}$$

Polynomial

$$y = \sum_{i=1}^{n} c_i x^{i-1}$$

This functional form does not enforce a specific guess size. Instead, it fits the data to a polynomial with degree $n-1$ where n is the length of the guess vector.

Quadratic

$$y = c_1 (x - c_2)^2 + c_3$$

Rational

$$y = \frac{\sum_{i=1}^{m} c_i x^{i-1}}{\sum_{i=m+1}^{m+n} c_i x^{i-(m+1)}}$$

The case of the rational functional form is treated as the ratio of two polynomial functional forms. The guess vector should have length $m + n$. The degree of the polynomial in the numerator is $m-1$. The degree of polynomial in the denominator is $n - 1$.

Sinusoid

$$y = c_1 \sin(c_2 x - c_3) + c_4$$