1D

$$y = ax + b$$

$$y = ax^2 + bx + c$$

$$y = ax^3 + bx^2 + cx + d$$

$$\begin{bmatrix} x_0^3 & x_0^2 & x_0 & 1 \\ x_1^3 & x_0^2 & x_0 & 1 \\ \vdots & & & \\ x_m^3 & x_m^2 & x_m & 1 \end{bmatrix} \begin{bmatrix} a \\ b \\ c \\ d \end{bmatrix} = \begin{bmatrix} y_0 \\ y_1 \\ \vdots \\ y_m \end{bmatrix}$$

$$A \qquad \theta \qquad B$$

$$\theta = (A^T A)^{-1} A^T B$$