

## I.2 Interpolation error

e.g. from measurements

So far we have considered arbitrary data.  
Now we assume that the data is generated by some function  $f$  and ask how well the IP approximates this function.

Let  $f: I = [a, b] \rightarrow \mathbb{R}$  and we denote

by  $p[f|x_0, \dots, x_n](x) \in \mathcal{P}^n$  Vector space of polynomials up to and including  $n$   
the IP fulfilling the ICs

$$p[f|x_0, \dots, x_n](x_j) = f(x_j) \text{ for } j=0, 1, \dots, n.$$

