



- (a) What are the unknowns in this question? What are we trying to solve for?
- (b) Can you write an equation corresponding to the first observation  $(x_0, y_0)$ , in terms of  $a_0, a_1, a_2, a_3$ , and  $a_4$ ? What does this equation look like? Is it linear in the unknowns?
- (c) Now, write a system of equations in terms of  $a_0, a_1, a_2, a_3$ , and  $a_4$  using *all of the observations*.
- (d) Finally, solve for  $a_0, a_1, a_2, a_3$ , and  $a_4$  using IPython. You have now found the quartic polynomial that best fits the data!