How to powerfully and effectively machine learning algorithms?

Some practical situations:

Some promising avanues for improving machine learning algorithms:

$$J(\theta) = \frac{1}{2m} \left[\sum_{i=1}^{m} (h_{\theta}(x^{(i)}) - y^{(i)})^2 + \lambda \sum_{j=1}^{m} \theta_j^2 \right]$$

Suppose we implemented the regularized linear regression to predict the housing prices.

However, when we test our hypothesis on a new set of houses, we found that it maks unacceptably large errors in its predictions. What can we do next?