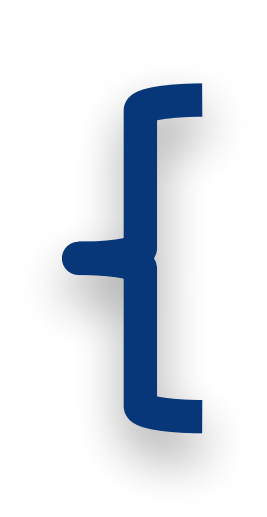

H2O.ai

Platt Scaling

- Many ML algorithms introduce biases when it comes to class probability

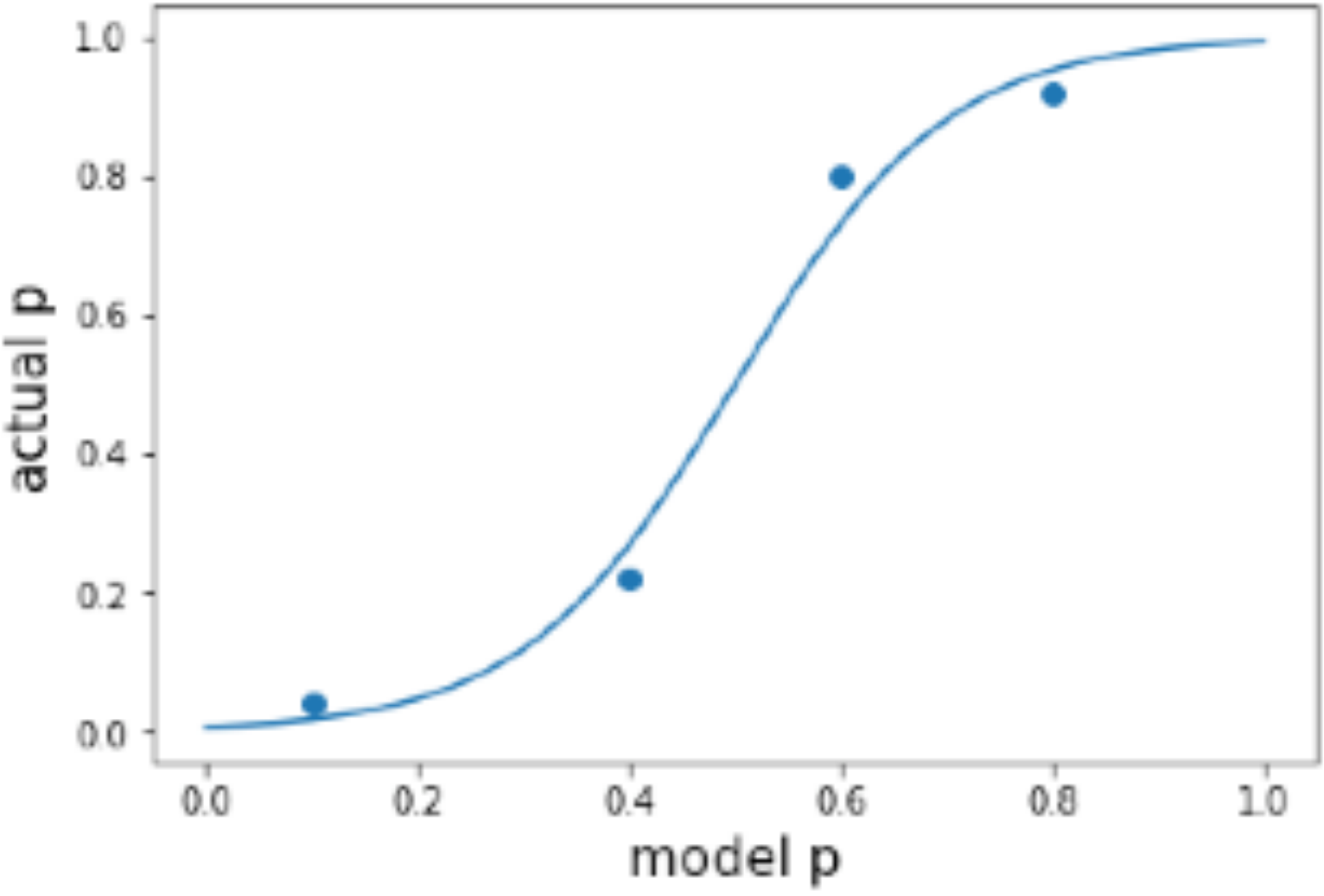
underpredict high-prob classes
overpredict low-prob classes

overpredict high-prob classes
underpredict low-prob classes



Naïve Bayes

SVMs, GBMs


1.0
0.8
0.6
0.4
0.2
0.0
actual p
0.0
0.2
0.4
0.6
0.8
1.0
model p

- Correct for this by fitting a sigmoid to the model output:

$$P(\mathbf{x}) = \frac{1}{1 + \exp(Af(\mathbf{x}) + B)}$$

- Split data into two frames:

1) Training dataframe: used to generate f(x)
2) Platt calibration frame: used to fit A and B

Supervised Learning:

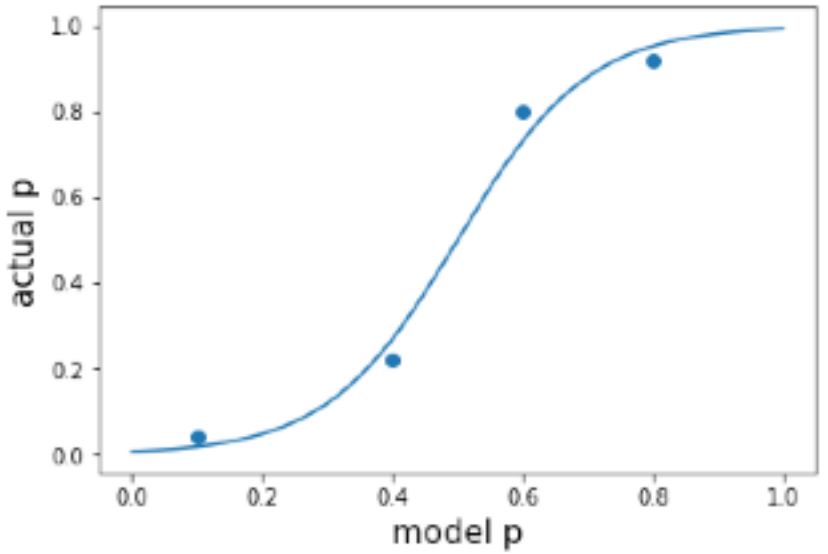
RANDOM FORESTS

Platt Scaling

- Many ML algorithms introduce biases when it comes to class probability

SVMs, GBMs { underpredict high-prob classes; overpredict low-prob classes

Naïve Bayes { overpredict high-prob classes; underpredict low-prob classes



- Correct for this by fitting a sigmoid to the model output:

$$P(\mathbf{x}) = \frac{1}{1 + \exp(Af(\mathbf{x}) + B)}$$

- Split data into two frames:
  1) Training dataframe: used to generate f(x)
  2) Platt calibration frame: used to fit A and B