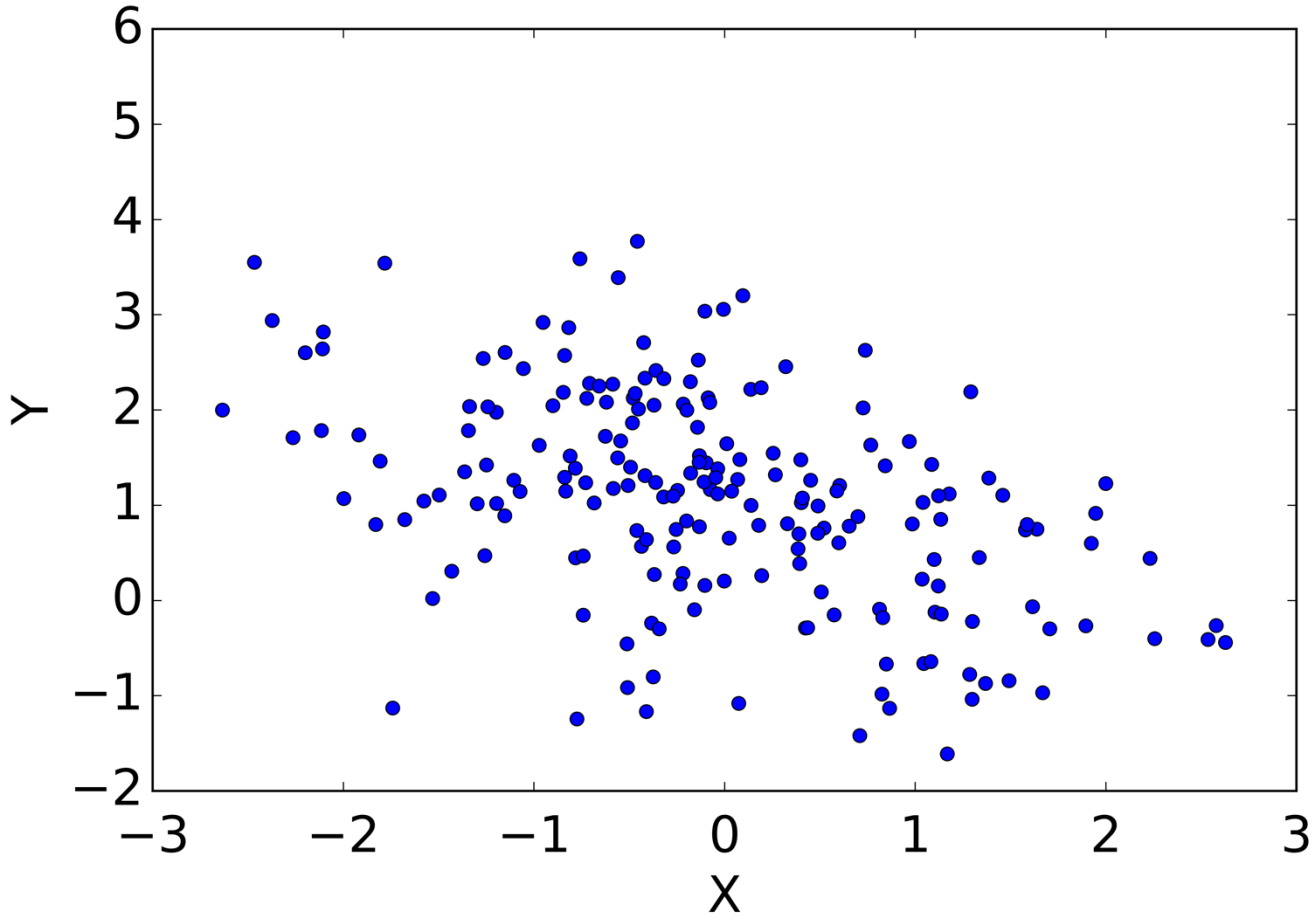
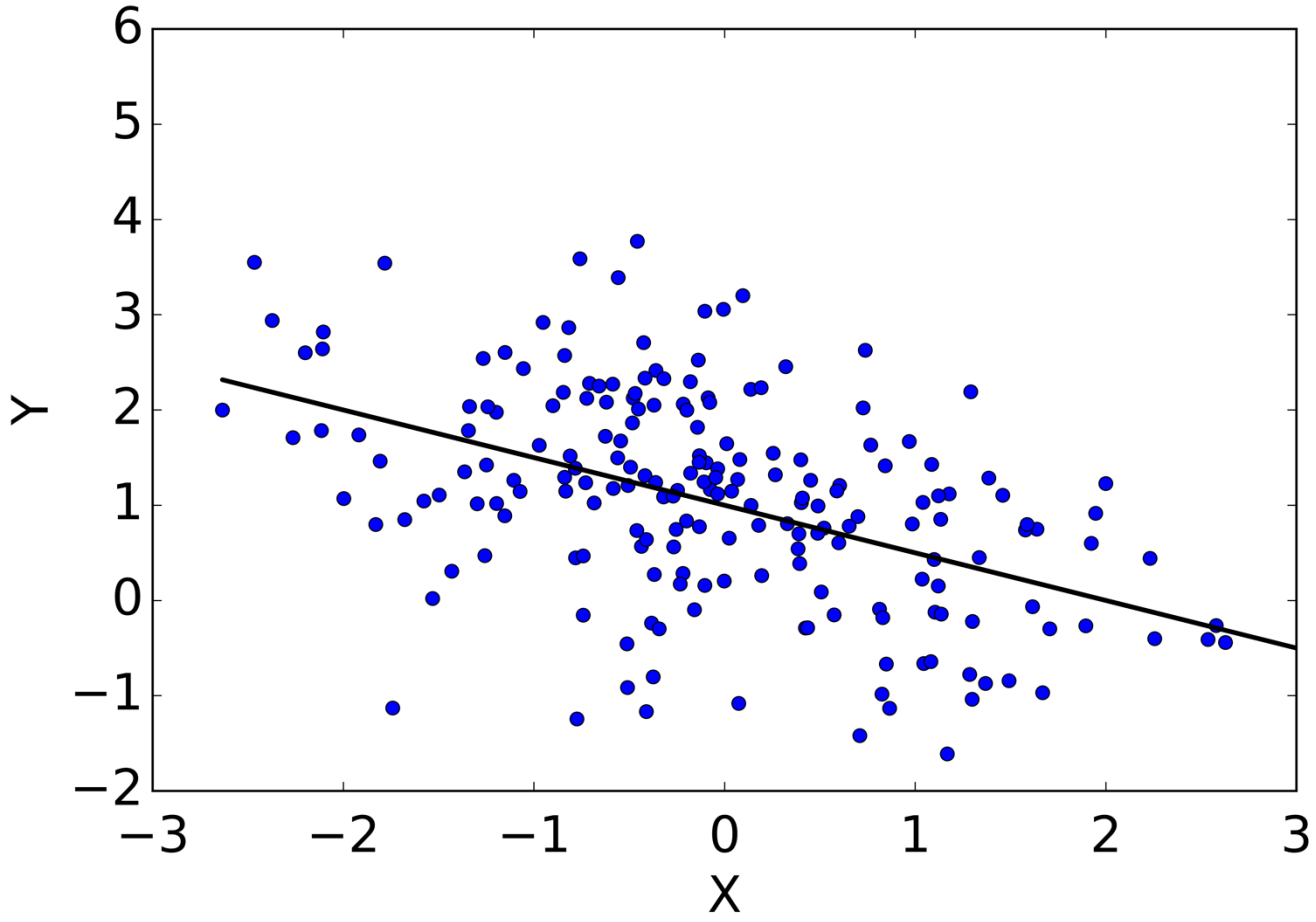
Exploring Uncertainty

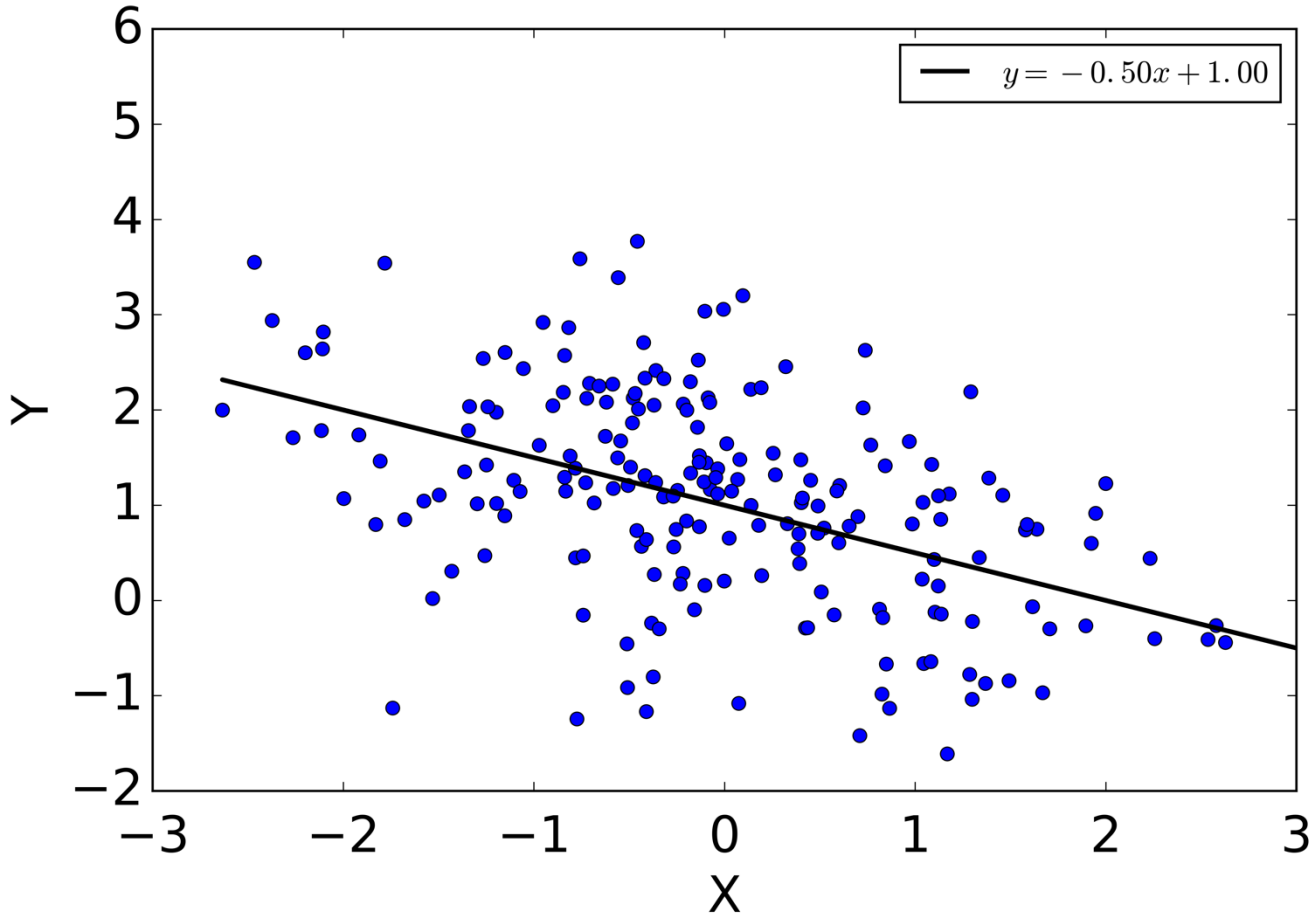
Data

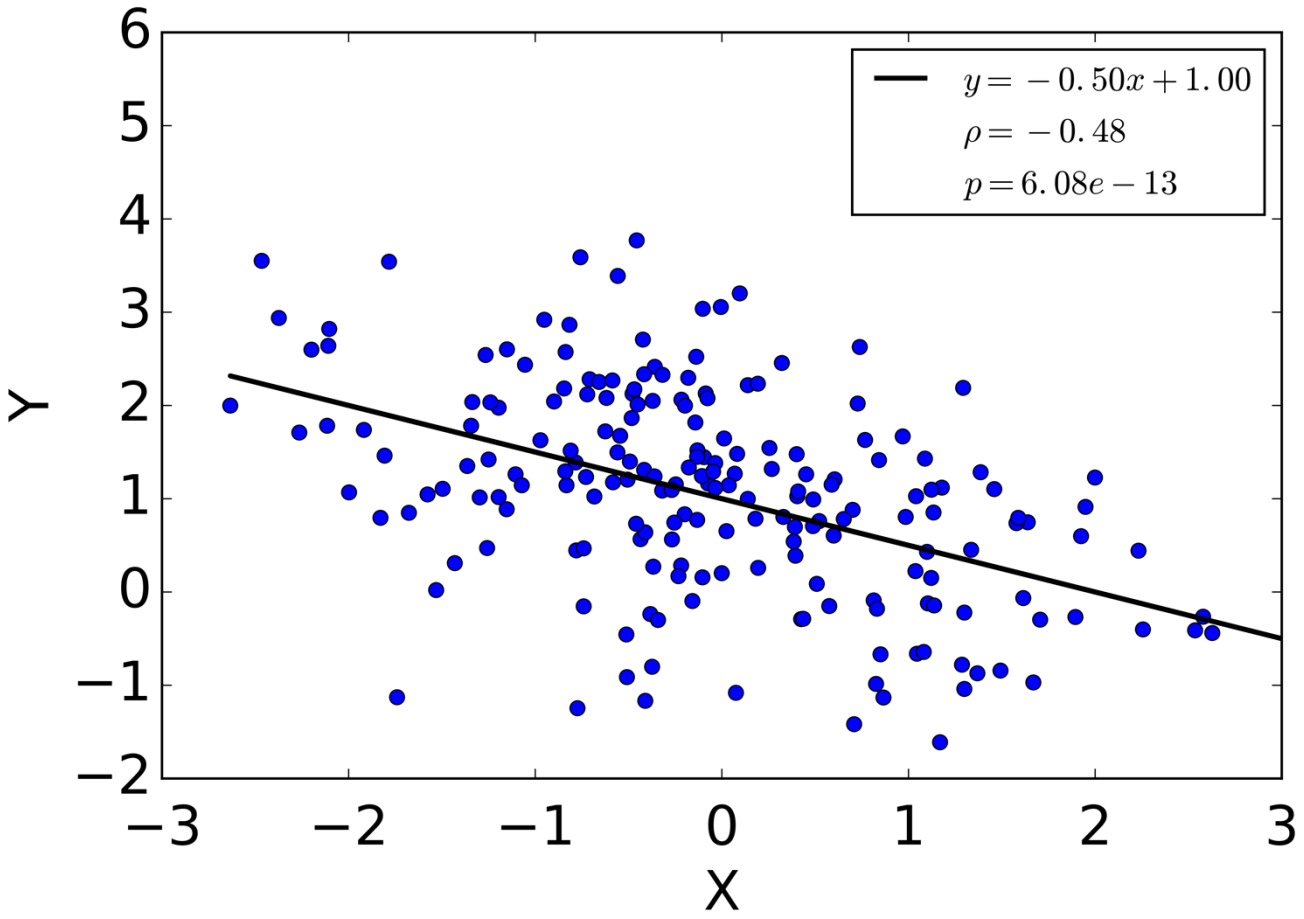
```
a = -0.5
b = 1
n = 200
x = np.random.randn(n)
y = a*x + b + 1*np.random.randn(n)
```

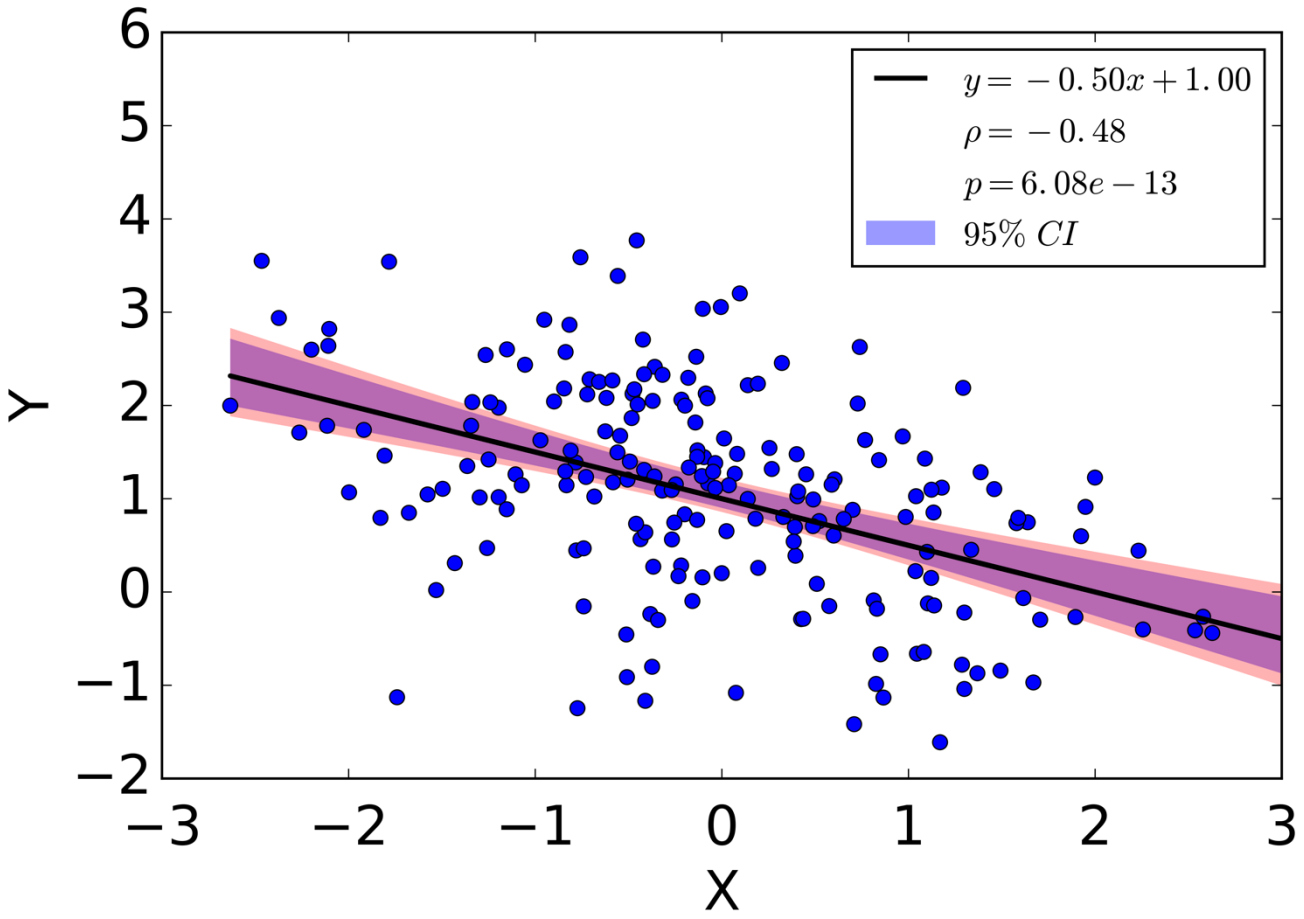
Data




6
5
4
3
2
1
0
−1
−2
Y
−3
−2
−1
0
1
2
3
X

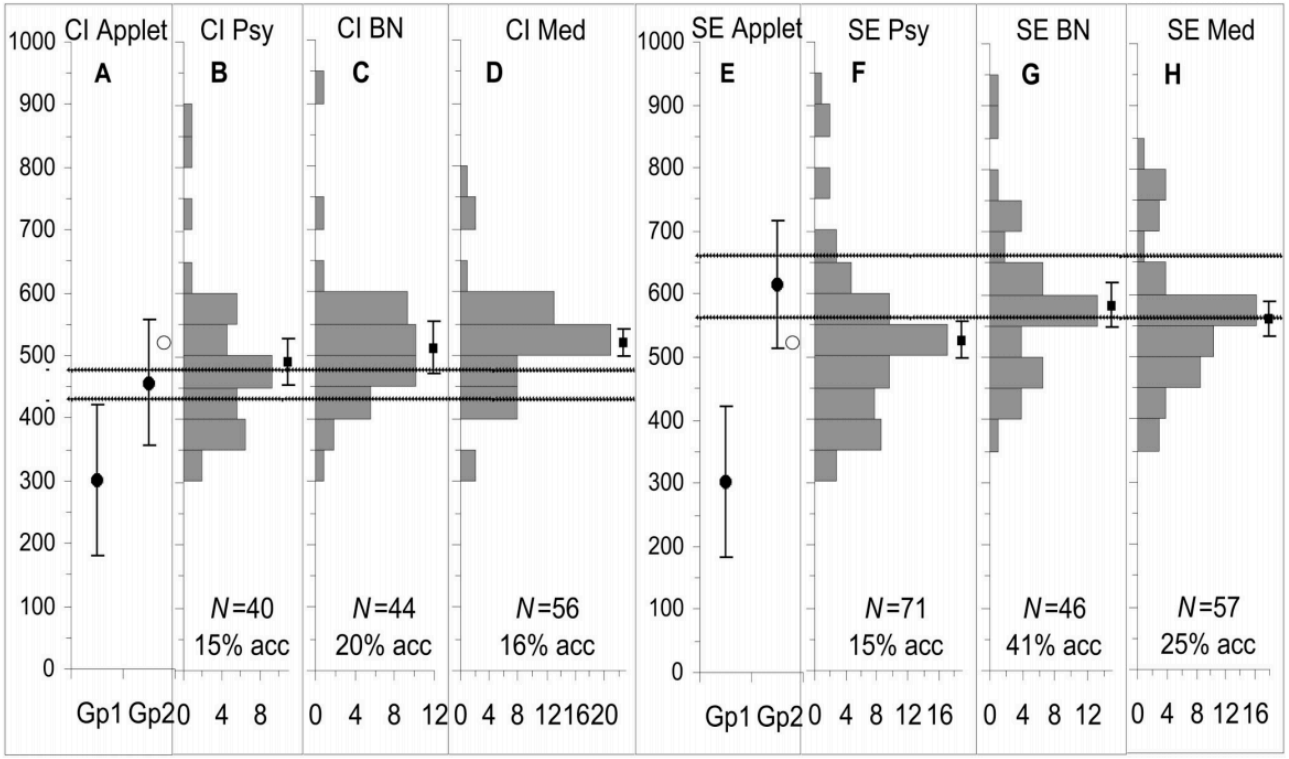

$y = -0.50x + 1.00$
Y
X
6
5
4
3
2
1
0
−1
−2
−3
−2
−1
0
1
2
3


$y = -0.50x + 1.00$
$\rho = -0.48$
$p = 6.08e-13$
Y
X
6
5
4
3
2
1
0
−1
−2
−3
−2
−1
0
1
2
3

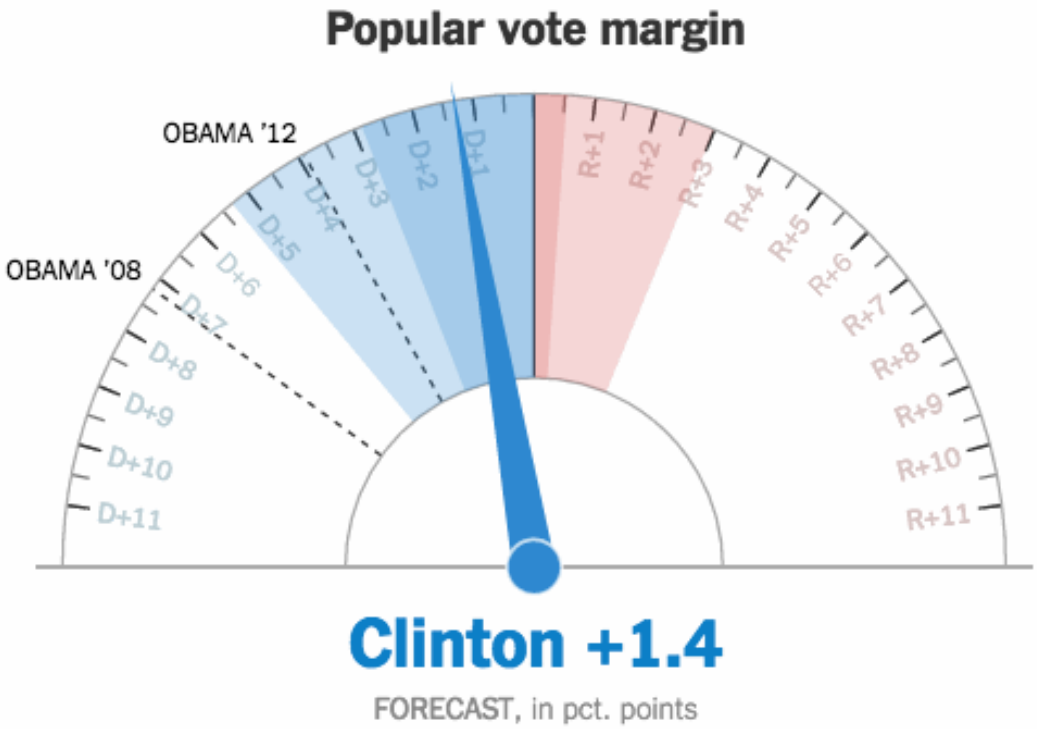

$y = -0.50x + 1.00$
$\rho = -0.48$
$p = 6.08e-13$
95% CI
Y
X
6
5
4
3
2
1
0
−1
−2
−3
−2
−1
0
1
2
3

Communicating Uncertainty Is Hard

"Confidence intervals considered harmful"
—Belia, 2005



A Different Attempt



http://www.nytimes.com, 2016

http://vis4.net/blog/posts/jittery-gauges-election-forecast/

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