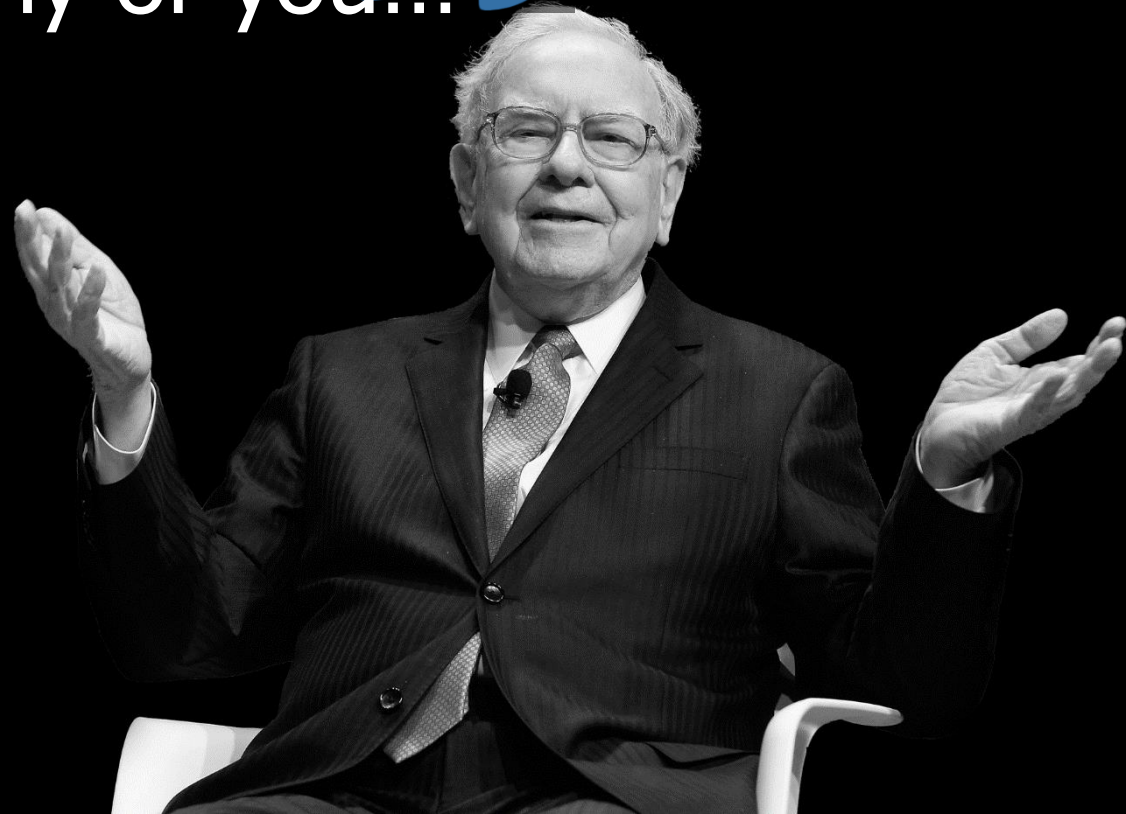




“Right now, I would pay  
**\$100,000**  
for 10% of the future  
earnings of any of you...”

- Warren Buffet



# Communicating Data:

Practical Advice for Converting Insight into Action

Seamus Wedge

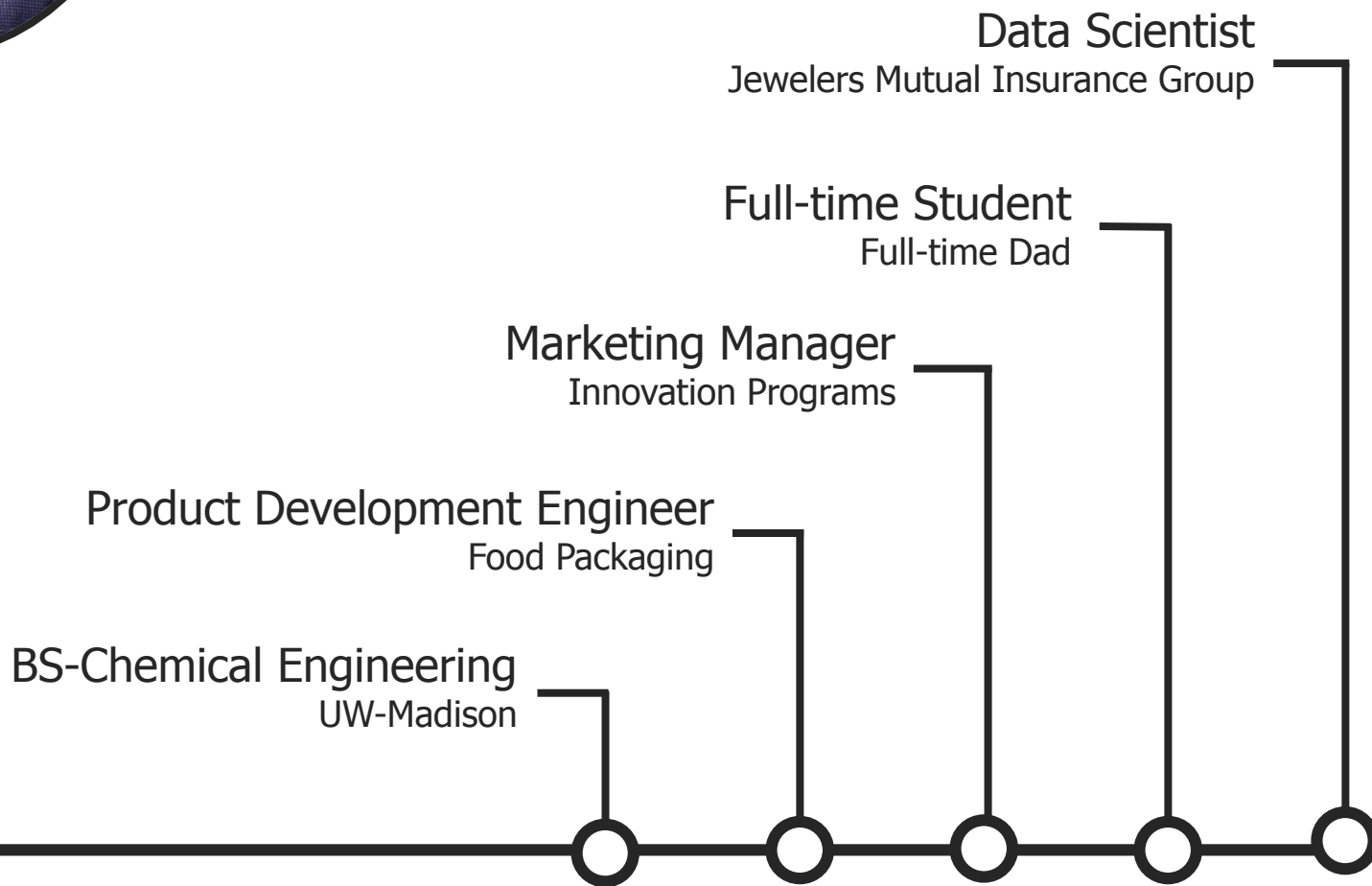
Big Data Wisconsin – 2018 Conference

August 1, 2018





# Seamus Wedge



```
In [2]: assert (communication >= 'important')
```

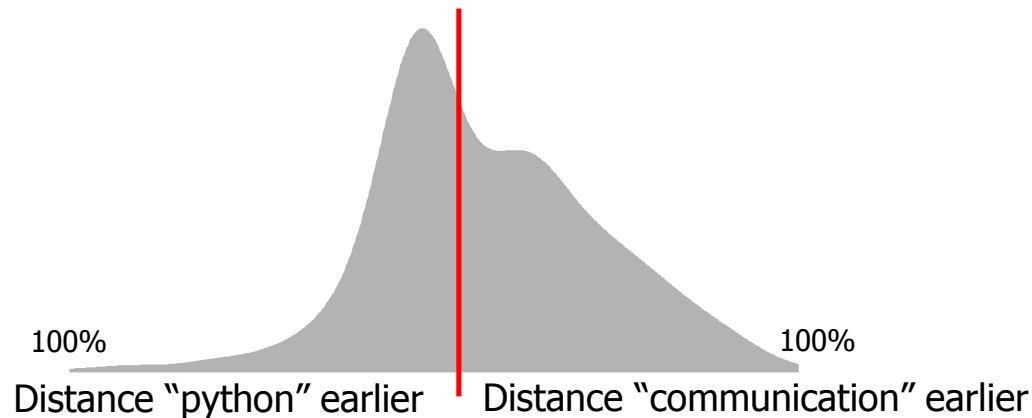
```
In [3]: assert (communication < 'valued')
```

# A simple look at communication today...



Where does "communication" appear? Before or after hard skills?

When "python" and "communication" are both present:





The background of the slide is a solid green color with a halftone dot pattern. The dots are arranged in a grid that tapers off towards the right side of the slide, creating a sense of depth and movement. The dots are a lighter shade of green than the background.

>> Things we can do...



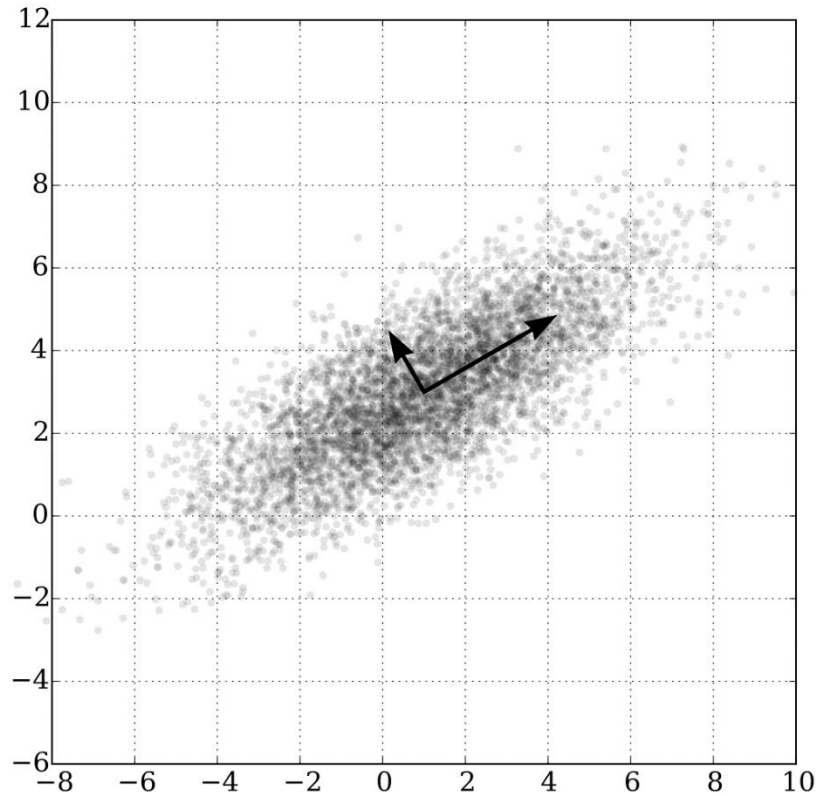
Fall in love with  
the problem  
Not the solution.

A man with grey hair and a beard is smiling at the camera. He is wearing a black t-shirt with the text 'Fall in love with the problem' in white and 'Not the solution.' in white text on a yellow rectangular background. He is sitting at a dark table in what appears to be a cafe or office setting. In the background, there are shelves with various items and other people. On the table, there is a glass of red liquid, a container of sugar packets, and a smartphone.



# #1 | Use analogies

# Analogies are a dimensionality reduction technique for technical communication

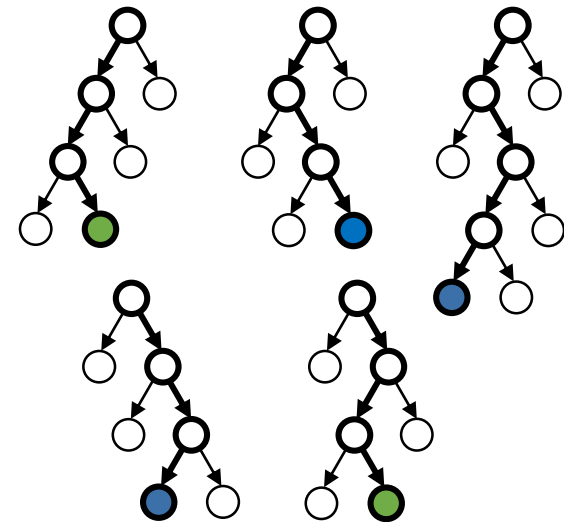


# How could you explain random forests?

Given training set  $X = x_1, \dots, x_n$  with  $p$  features, and responses  $Y = y_1, \dots, y_n$ , for  $b = 1, \dots, B$ :

1. Randomly select  $m$  features where  $m \ll p$ .
2. Sample, with replacement,  $n$  training examples from  $X, Y$ ; call these  $X_b, Y_b$ .
3. Train a classification or regression tree  $f_b$  on  $X_b, Y_b$ .

$$\hat{f} = \frac{1}{B} \sum_{b=1}^B f_b(x')$$



## #2 | Know your audience

**Don't speak to a title**  
**Speak to a person**





# #3 | Avoid lingo

# The audience needs to understand it

## Better: The audience needs to feel compelled to act

Predicting renewals:

TP 20587	FN 1389
FP 891	TN 8710

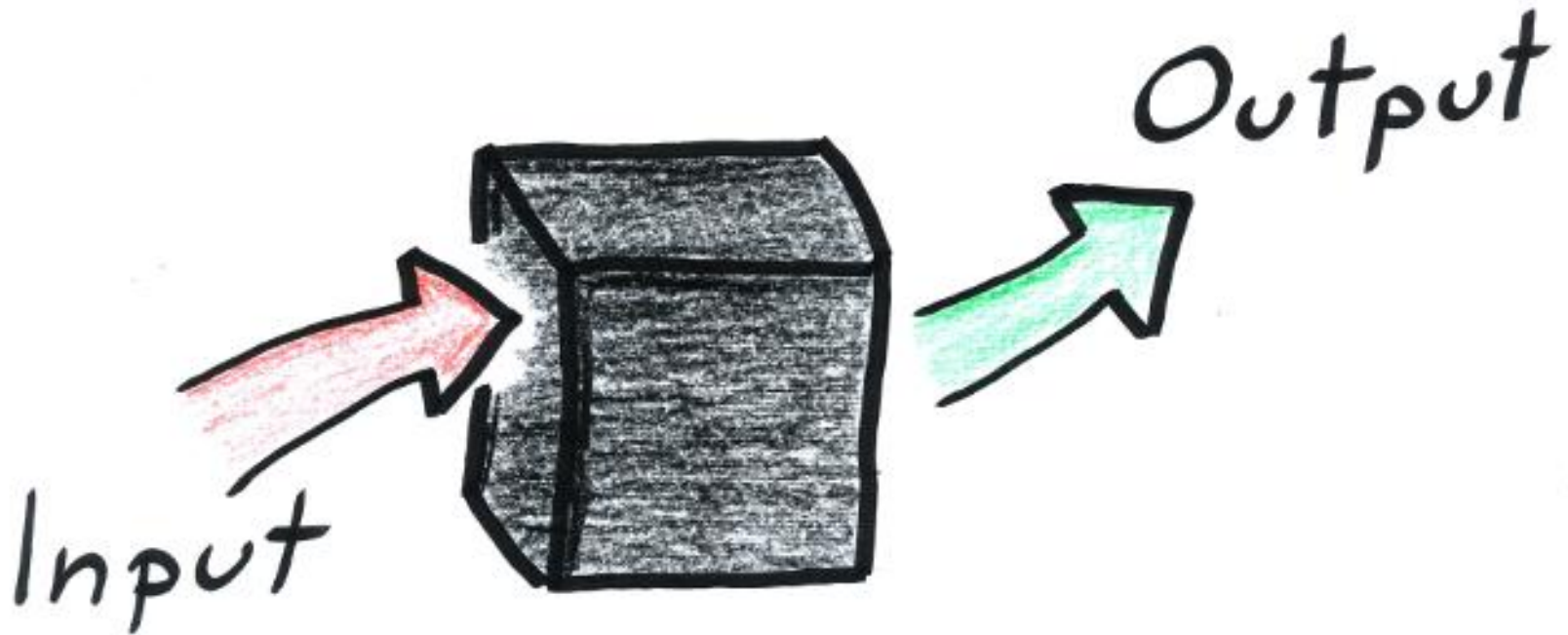
Precision: 93.7%

Recall: 95.9%

## #4 | Embrace the black box

**Details can wait**

**Get business requirements up-front**





# #5 | Communicate



**Tell people what you are working on**  
**Ask people what they are working on**



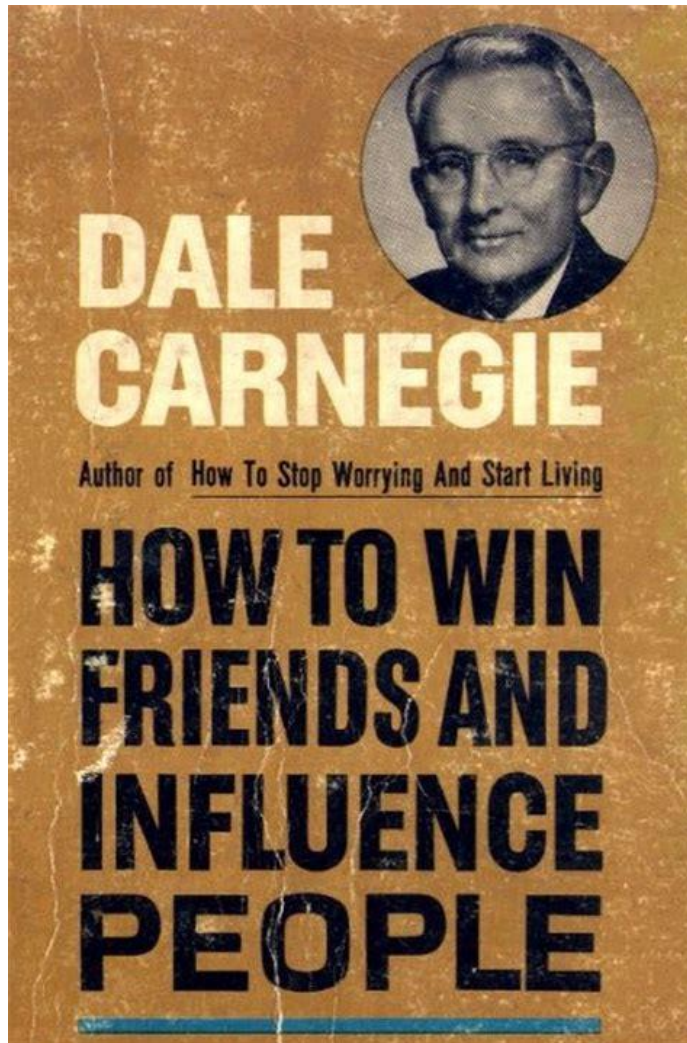
>> What can the business do?



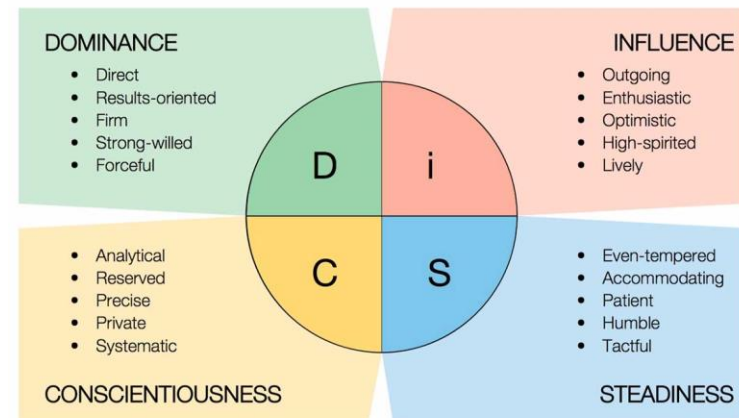
# #1 | Train on communication

# Find what works for you and your team

## Make communication a goal



*Meetup*



## #2 | Provide honest feedback



# Provide Immediate Feedback

## Private! Immediate Feedback



# Communication is a business culture

## The work never really ends

```
In [*]: while (communication < 'valued'):  
         communication = keep_working_on(communication)
```

# Thank you!

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