

Building a model is the *least* important part of your job

Kimberly Shenk

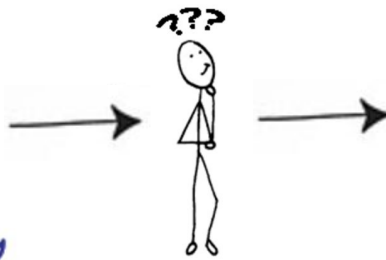
Director, Data Science Solutions

Domino Data Lab

We are told a beautiful story







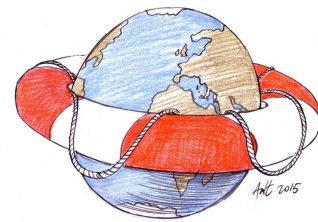
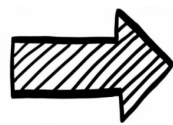
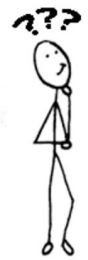
Algorithm 1 Boosted K Nearest Neighbour

```
1: Inputs:  
    $S = s_i = (x_i, y_i)$   
2: Initialize:  
    $w_i^0 \leftarrow 0, i = 1, \dots, n$   
    $S_0 \leftarrow S$   
3: for  $t = 1$  to  $T$  do  
4:    $S_t \leftarrow S_{t-1}$   
5:   for  $s_q \in S_t$  do  
6:      $N_q \leftarrow k$  nearest neighbors  
7:     of  $s_q$  using  $D(s_q, s_i)$   
8:      $\text{label}(s_q) = \text{argmax}_{s_i \in N_q} D(s_q, s_i);$   
9:     if  $\text{label}(s_q) \neq y_q$  then  
10:      for  $s_i \in N_q$  do  
11:        if  $y_i \neq y_q$  then  
12:           $w_i^t \leftarrow w_i^{t-1} - \lambda/d(x_q, x_i);$   
13:        else  
14:           $w_i^t \leftarrow w_i^{t-1} + \lambda/d(x_q, x_i);$   
15:        end if  
16:      end for  
17:    end if  
18:  end for  
19:  if  $\text{label}(s_q) = y_q \forall s_q$  then  
20:    break  
21:  end if  
22: end for
```



Algorithm 1 Boosted K Nearest Neighbour

```
1: Inputs:  
    $S = s_i = (x_i, y_i)$   
2: Initialize:  
    $w_i^0 \leftarrow 0, i = 1, \dots, n$   
    $S_0 \leftarrow S$   
3: for  $t = 1$  to  $T$  do  
4:    $S_t \leftarrow S_{t-1}$   
5:   for  $s_q \in S_t$  do  
6:      $N_q \leftarrow k$  nearest neighbors  
7:     of  $s_q$  using  $D(s_q, s_i)$   
8:      $\text{label}(s_q) = \text{argmax}_{s_i \in N_q} D(s_q, s_i);$   
9:     if  $\text{label}(s_q) \neq y_q$  then  
10:      for  $s_i \in N_q$  do  
11:        if  $y_i \neq y_q$  then  
12:           $w_i^t \leftarrow w_i^{t-1} - \lambda/d(x_q, x_i);$   
13:        else  
14:           $w_i^t \leftarrow w_i^{t-1} + \lambda/d(x_q, x_i);$   
15:        end if  
16:      end for  
17:    end if  
18:  end for  
19:  if  $\text{label}(s_q) = y_q \forall s_q$  then  
20:    break  
21:  end if  
22: end for
```



Algorithm 1 Boosted K Nearest Neighbour

```

1: Inputs:
    $S = s_i = (x_i, y_i)$ 
2: Initialize:
    $w_i^0 \leftarrow 0, i = 1, \dots, n$ 
    $S_0 \leftarrow S$ 
3: for  $t = 1$  to  $T$  do
4:    $S_t \leftarrow S_{t-1}$ 
5:   for  $s_q \in S_t$  do
6:      $N_q \leftarrow k$  nearest neighbors
7:     of  $s_q$  using  $D(s_q, s_i)$ 
8:      $\text{label}(s_q) = \text{argmax}_{s_i \in N_q} D(s_q, s_i)$ ;
9:     if  $\text{label}(s_q) \neq y_q$  then
10:      for  $s_i \in N_q$  do
11:        if  $y_i \neq y_q$  then
12:           $w_i^t \leftarrow w_i^{t-1} - \lambda/d(x_q, x_i)$ ;
13:        else
14:           $w_i^t \leftarrow w_i^{t-1} + \lambda/d(x_q, x_i)$ ;
15:        end if
16:      end for
17:    end if
18:  end for
19:  if  $\text{label}(s_q) = y_q \forall s_q$  then
20:    break
21:  end if
22: end for
  
```

But then we grow up

A beautiful Model on the Shelf

A beautiful Model on the Shelf

=



A beautiful Model on the Shelf

=



Why does this happen?

Why does this happen?

Businesses know they need Data
Science

Why does this happen?

Businesses know they need Data Science

but that doesn't mean they know how to use it

Why does this happen?

Businesses know they need Data Science

but that doesn't mean they know how to use it

That's why they hired you...

Stop modeling

Stop modeling... so much

Stop modeling... so much

1. You are in the **Sales** business
2. Learn to be an **Interpreter**
3. Think like a **CEO**
4. **Data Engineers** are your best friend

You are now in the Sales business

You have to convince people in the organization that you can bring value

- Most people don't know how to leverage your skills
- Craft compelling pitches with real examples
- Believe in what you are selling

You are an Interpreter

You don't want to deliver things that aren't actually useful

- Exercise the 5 “Whys”
- Many times what is asked for won't really solve the problem
- You have to decipher what the problem *really* is

Think like a CEO

Make sure what you are working on will actually drive the business forward

- Learn how to say “No” - practice and role play!
- What decision will be made based on the work you are doing?
- What might change based on your findings?
- Be able to assess what is a high priority for the business as A WHOLE

Data Engineers are your best friends

You actually can't do your job without them

- Walk them through your day-to-day, literally
- Tie your work back to business objectives - your work isn't just theoretical
- Bring in your business partners, especially when integrating with tools or operations

Tips?

.07%*

**probability of being a unicorn*

Stop looking for Unicorns

They will cost you too much

It's HARD to keep them happy

They take forever to find (do they
really even exist?)

It's hard to “Do All” and “Be All” Things

The whole is greater than the sum of its parts” - Aristotle

- Which area do people on your team naturally gravitate to?

sales pitchers - problem interpreters - mini-strategists/ CEO thinkers - data Eng socialites

- Build out individual expertise - give each person one area to focus on
- Divide and Conquer

Thank you

Kimberly Shenk
kimberly@dominodatalab.com