NIKE VS. NEW BALANCE

By

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OVERVIEW

- Problem statement

- Background

- My goal

- Data

- Sentiment analysis

- Modeling and predictions

PROBLEM STATEMENT

- Sneaker store owner
  - Always need to buy new product
- What's trending?
- New models?

BACKGROUND

- Sneakers (trainers if you're British) are a global obsession
- Cultural commodities
  - Sportswear, street style, runway/catwalk fashion
  - Not just for athletics anymore
- Global sneaker market valued at $79 billion in 2020, will increase to $120 billion by 2026
- Trends in athleisure
  - Acceptable in the workplace

SNEAKERS ARE FOR EVERYBODY!

MY GOAL

- See what people are saying
- Understand the trends and new products
- Grow my business

NEW BALANCE AND NIKE DATA

ordered a pair of these my first 327 s im in love	Newbalance
started grey day getting a lil hooked	Newbalance
started grey day getting a lil hooked	Newbalance
started on grey day getting a lil hooked	Newbalance
when will these drop on the nb website i have ...	Newbalance
...	...
what are those found them in my basement and k...	Nike
new air force 1s stained	Nike
did nike discontinue these medium olive boots ...	Nike
should i wear them or you think the price will...	Nike
1985 3 piece	Nike

SENTIMENT ANALYSIS

- Mainly looked at compound score
 - Gives overall measure of the object

Positive Posts

|						
383	thanks to everyone who responded yesterday was...	Newbalance	0.000	0.755	0.245	0.9231
607	first pair of 992s usually rock 990s size 14 t...	Newbalance	0.000	0.774	0.226	0.9169
608	this is my first pair usually rock 990s size 1...	Newbalance	0.000	0.777	0.223	0.9169
132	it s probably done before but what is the best...	Newbalance	0.000	0.612	0.388	0.9081
1641	hello i m mornica i m really sweet and polite ...	Nike	0.000	0.790	0.210	0.8932
1100	newest pickup haven t bought anything other th...	Nike	0.000	0.814	0.186	0.8883
1183	i m stuck between these 3 shoes i need help if...	Nike	0.062	0.556	0.383	0.8860
1406	could someone help me find these exact shoes o...	Nike	0.000	0.769	0.231	0.8858
1229	hi guys bought these back in 2013 please can s...	Nike	0.000	0.703	0.297	0.8750
1034	these are being sold second hand at a great pr...	Nike	0.000	0.600	0.400	0.8750
891	when are these 990v2 s releasing felt like i s...	Newbalance	0.000	0.568	0.432	0.8720
1632	brought out these 17 year old beauties lol not...	Nike	0.000	0.568	0.432	0.8720

THE MOST NEGATIVE

1947	found these they look fake asf but i ll just a...	Nike	0.318	0.682	0.000	-0.8522
1681	i check this stupid app every day and never on...	Nike	0.378	0.622	0.000	-0.8360
1490	got these from the outlets left jumpman lookin...	Nike	0.336	0.664	0.000	-0.7635
724	my disappointment is immeasurable and my day i...	Newbalance	0.478	0.522	0.000	-0.7506
1072	they are bought used i want to know if they ar...	Nike	0.355	0.582	0.063	-0.7202
555	are these m996 beaters that i bought authentic...	Newbalance	0.305	0.695	0.000	-0.6924
1232	nike s playbook under fire after poor results	Nike	0.524	0.476	0.000	-0.6705
1544	the shoes were muddy so i put random cleaners ...	Nike	0.228	0.684	0.088	-0.6486
1169	i bought the wrong size and am wondering where...	Nike	0.215	0.785	0.000	-0.6369
740	ml2002rc marblehead re up in australia was str...	Newbalance	0.184	0.816	0.000	-0.6340
1332	holy shit these white gundam shoes look fuckin...	Nike	0.297	0.577	0.126	-0.6285

COUNT VECTORIZER

Top 15 words
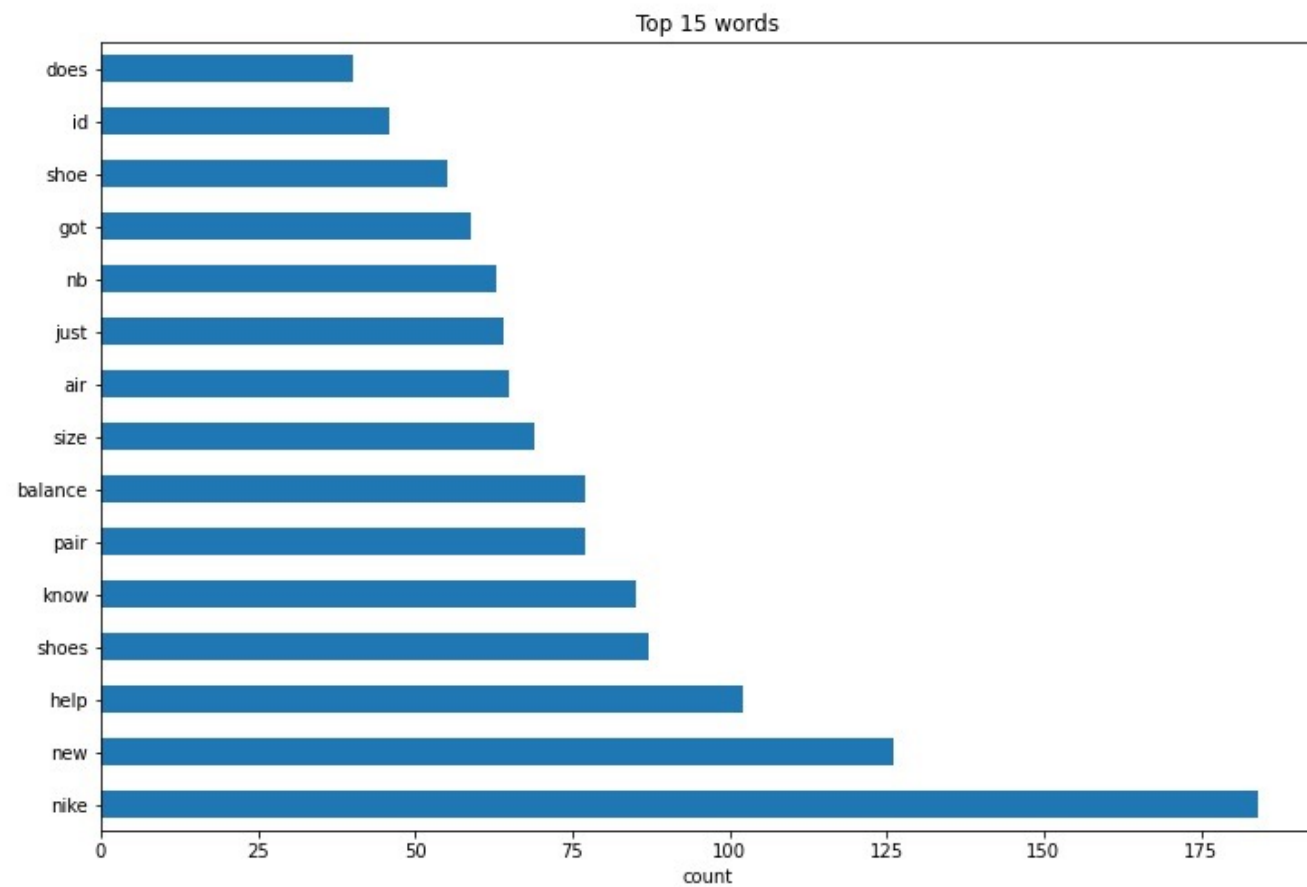
MNB RESULTS
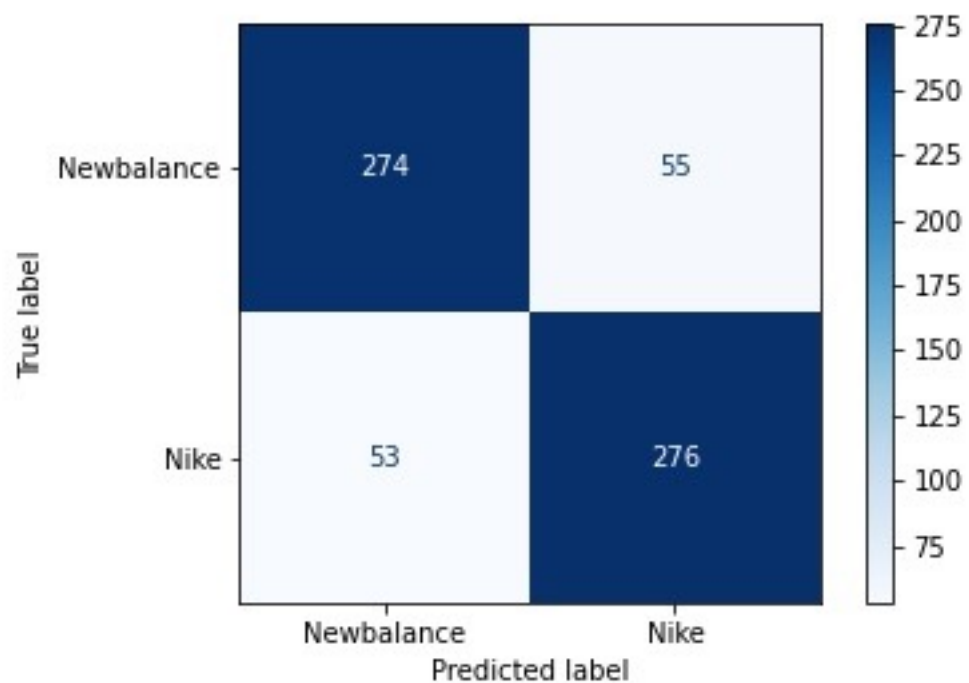
	precision	recall	f1-score	support
Newbalance	0.84	0.83	0.84	329
Nike	0.83	0.84	0.84	329
accuracy			0.84	658
macro avg	0.84	0.84	0.84	658
weighted avg	0.84	0.84	0.84	658

MNB PREDICTIONS

	test	true label	predicted label
7	does anyone know what model this is	Newbalance	Nike
9	which model is this	Nike	Newbalance
16	spilt coffee on the white toe box how do i cle...	Newbalance	Nike
21	is this okay	Nike	Newbalance
28	did a lil over laces swap for the off white du...	Nike	Newbalance
33	need help	Newbalance	Nike
38	yep there are some of them that are in the wild	Nike	Newbalance
42	daily poster challenge that i and my friend di...	Newbalance	Nike
43	so did anyone actually cop these pair of sexy ...	Nike	Newbalance
51	my father s day gift tn 1 triple black and a t...	Nike	Newbalance

TFIDF VECTORIZER

Top 15 words
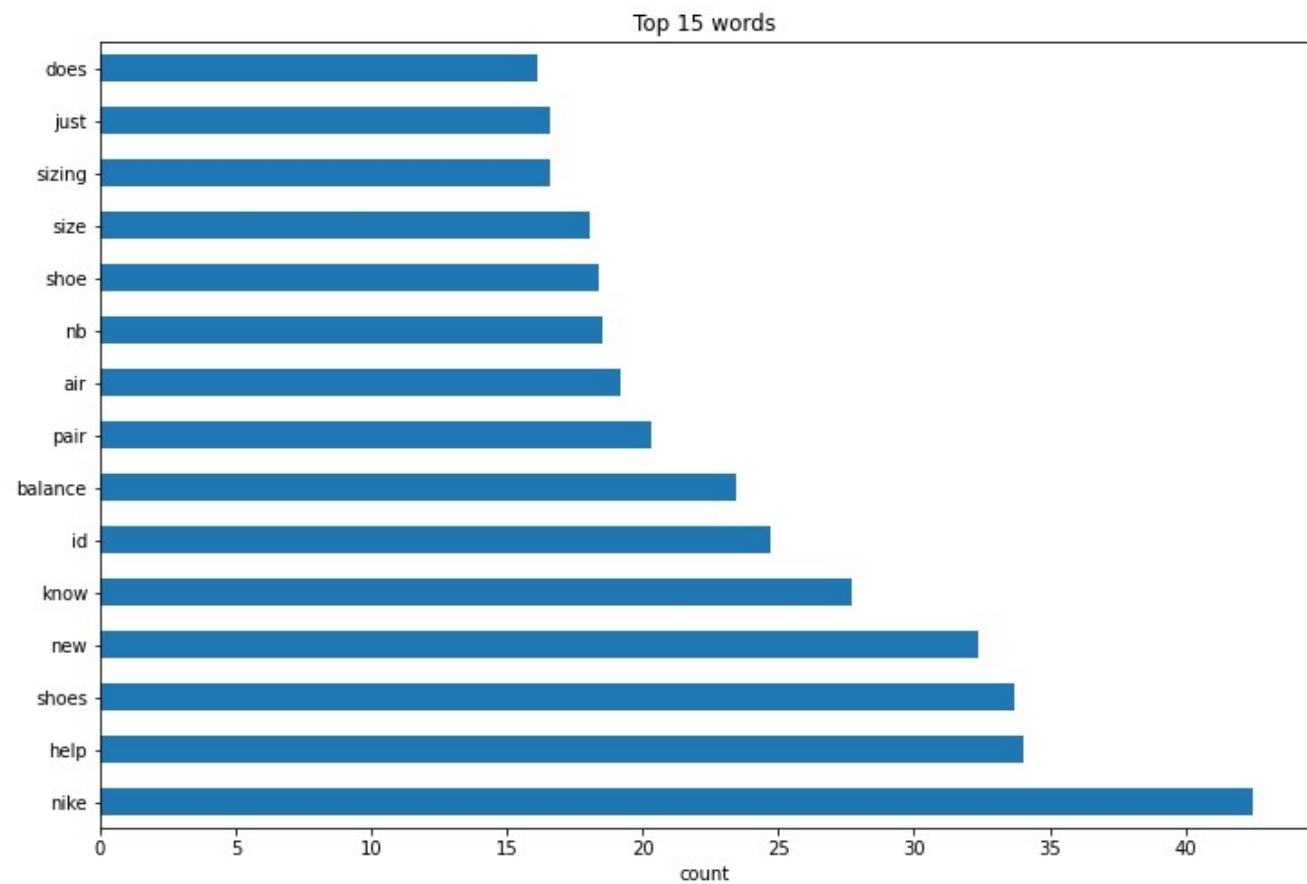
MNB RESULTS
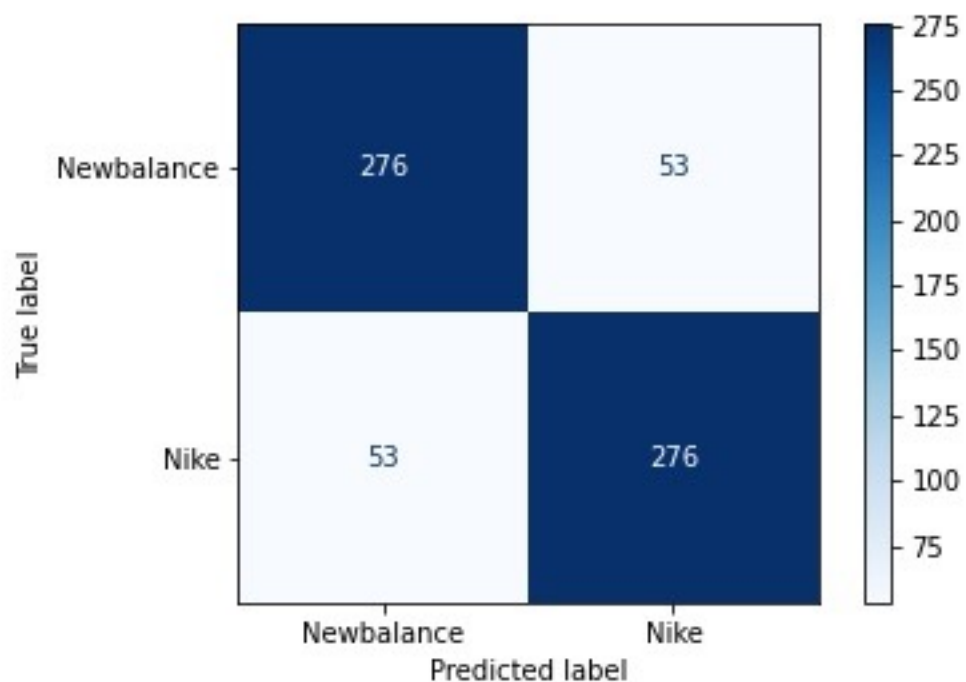
	precision	recall	f1-score	support
Newbalance	0.84	0.84	0.84	329
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43	so did anyone actually cop these pair of sexy ...	Nike	Newbalance
51	my father s day gift tn 1 triple black and a t...	Nike	Newbalance
61	pls help anyone identifies this shoe	Newbalance	Nike

RANDOM FOREST WITH BOOSTING

RESULTS

	word	importance
989	identify	0.013333
336	black	0.013333
1876	sure	0.013333
302	balance	0.013333
643	does	0.013333
1995	trying	0.013333
1953	today	0.013333
1348	nike	0.013333
1124	legit	0.013333
1164	look	0.013333

Estimator 1

nike <= 0.5
gini = 0.5
samples = 1335
value = [0.5, 0.5]
class = New Balance

gini = 0.488
samples = 1157
value = [0.5, 0.367]
class = New Balance

gini = 0.011
samples = 178
value = [0.001, 0.133]
class = Nike
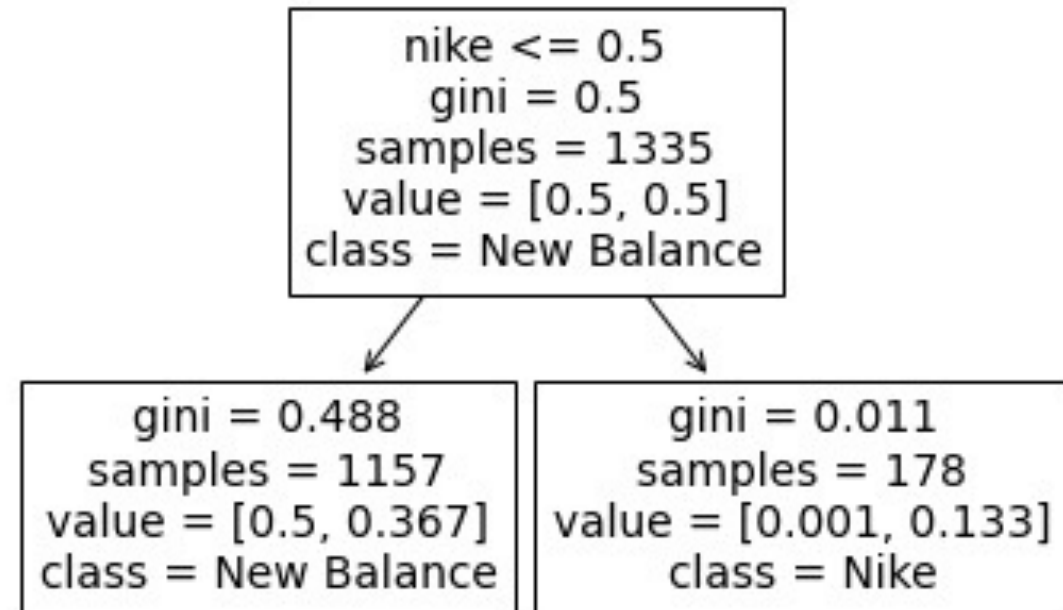
ADABOOST PREDICTIONS

|	test	true label	predicted label
5	id on those pls	Nike	Newbalance
6	to those of you with the auralee 550s does you...	Newbalance	Nike
7	does anyone know what model this is	Newbalance	Nike
8	any idea what these might be worth	Nike	Newbalance
9	which model is this	Nike	Newbalance
11	fire 97 for only 100	Nike	Newbalance
21	is this okay	Nike	Newbalance
31	what are those sorry for the bad image quality...	Nike	Newbalance
33	need help	Newbalance	Nike
35	adidas is ten times better	Nike	Newbalance
38	yep there are some of them that are in the wild	Nike	Newbalance
41	put the hawaii s on today they came with both ...	Nike	Newbalance

ADABOOST RESULTS
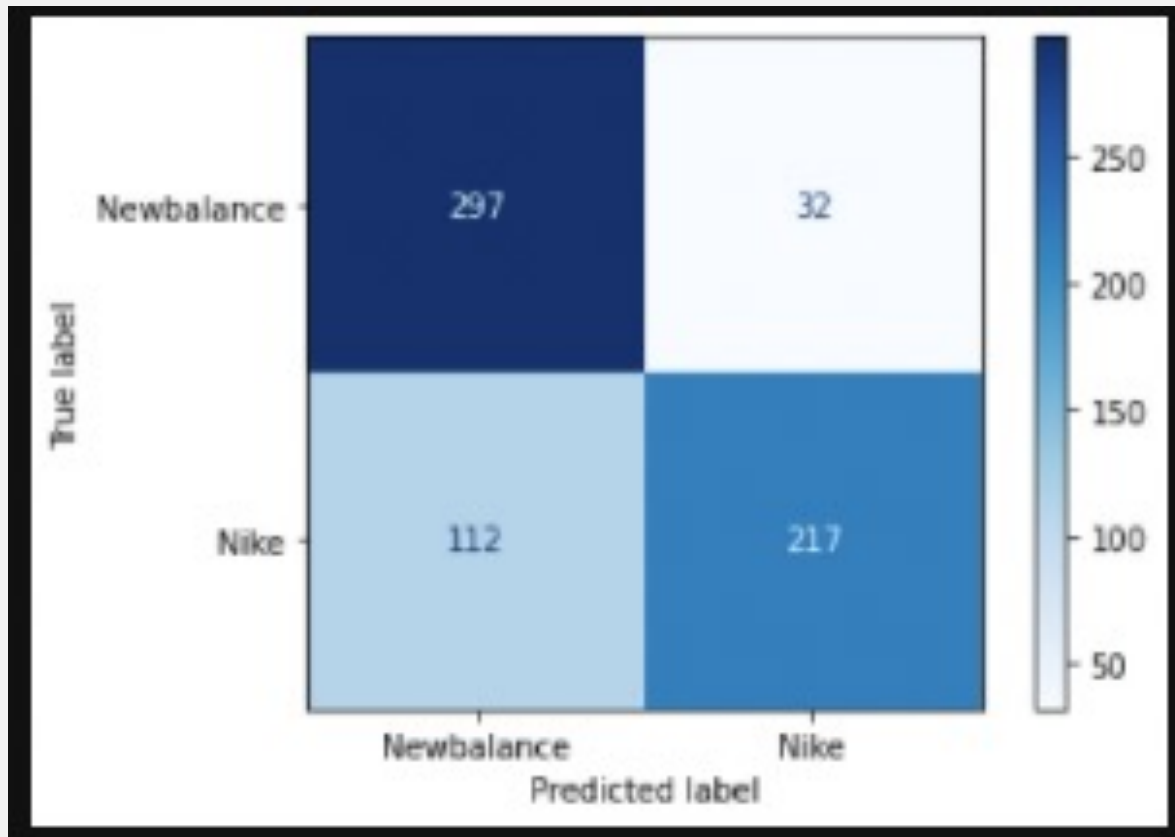
	precision	recall	f1-score	support
Newbalance	0.73	0.90	0.80	329
Nike	0.87	0.66	0.75	329
accuracy			0.78	658
macro avg	0.80	0.78	0.78	658
weighted avg	0.80	0.78	0.78	658

RANDOM FOREST PREDICTIONS

	test	true label	predicted label
0	beat the everliving shit out of these tending ...	Newbalance	Nike
5	id on those pls	Nike	Newbalance
6	to those of you with the auralee 550s does you...	Newbalance	Nike
7	does anyone know what model this is	Newbalance	Nike
9	which model is this	Nike	Newbalance
17	headed home	Newbalance	Nike
18	i run in 840v4 and reorder them as needed for ...	Newbalance	Nike
25	question about unisex sizing	Newbalance	Nike
42	daily poster challenge that i and my friend di...	Newbalance	Nike
47	scored all 3	Newbalance	Nike
54	love this green	Newbalance	Nike

RANDOM FOREST RESULTS
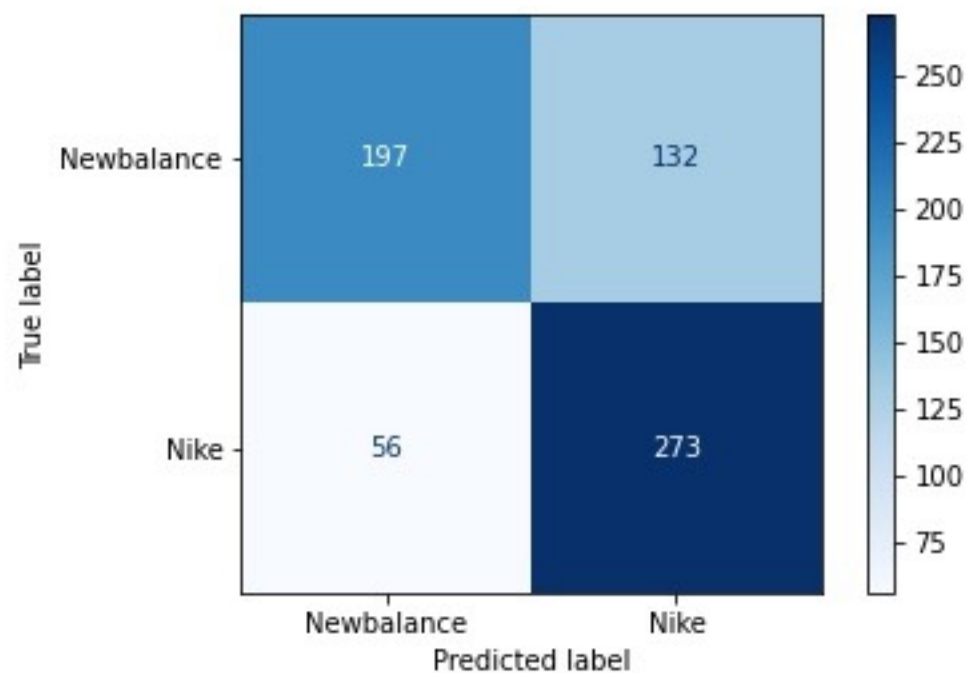
	precision	recall	f1-score	support
Newbalance	0.78	0.60	0.68	329
Nike	0.67	0.83	0.74	329
accuracy			0.71	658
macro avg	0.73	0.71	0.71	658
weighted avg	0.73	0.71	0.71	658

CONCLUSIONS

- Count Vectorizer with Multinomial Naïve-Bayes was the best
- Next time should incorporate bootstrapping
- Grab a larger dataset
- Look at other variables
  - Images
  - Comments