

Result for BERT 10 epoch

Run on Google Colab with Tesla4 GPU

Most of this was shown in the presentation, but the error analysis was conducted out of personal curiosity.

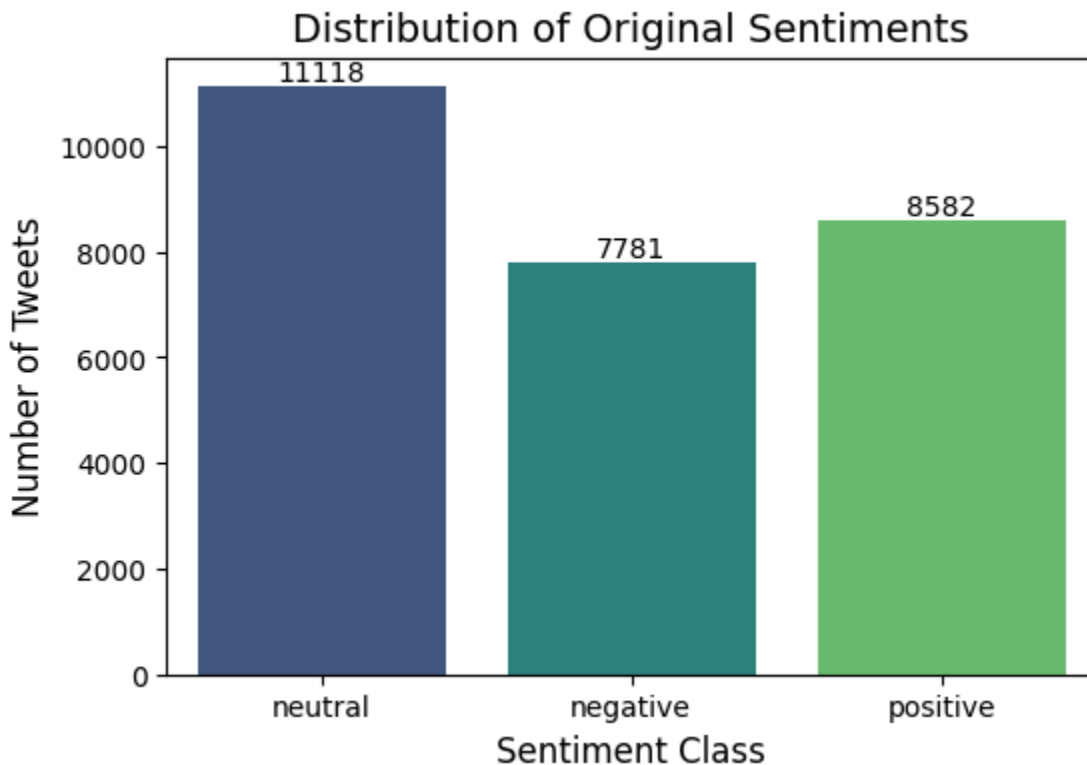
>>> Initializing Data Loading...

>>> Loading dataset from:

/root/.cache/kagglehub/datasets/yasserh/twitter-tweets-sentiment-dataset/versions/1/Tweets.csv

Loaded 27481 rows.

>>> Preprocessing data...



>>> Preparing Training & Test sets...

Training on 21984 tweets, Testing on 5497 tweets.

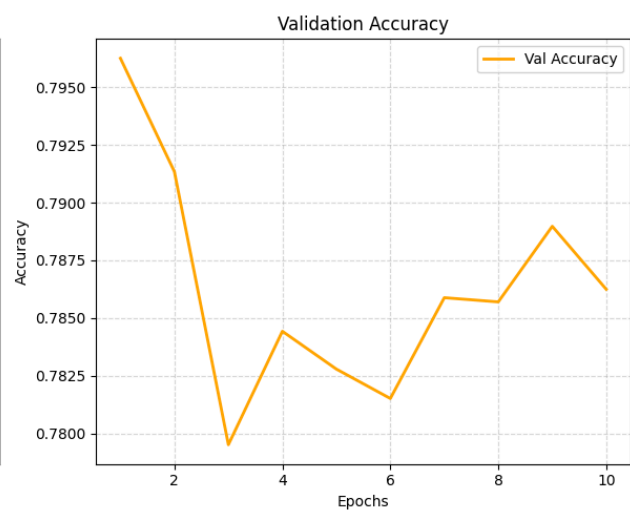
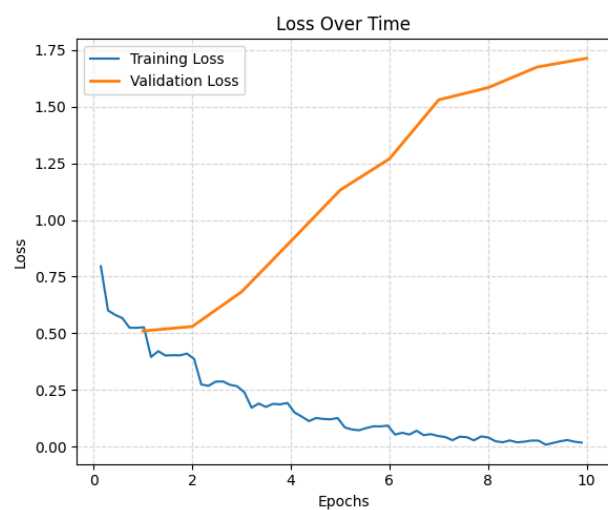
>>> Initializing BERT on cuda...

>>> Starting Training...

[13740/13740 2:08:09, Epoch 10/10]

Epoch	Training Loss	Validation Loss	Accuracy
1	0.524216	0.510418	0.796253
2	0.410573	0.530126	0.791341
3	0.266533	0.683059	0.779516
4	0.192667	0.906426	0.784428
5	0.126096	1.132178	0.782791
6	0.092655	1.270062	0.781517
7	0.046858	1.530429	0.785883
8	0.045071	1.584175	0.785701
9	0.026886	1.675404	0.788976
10	0.018002	1.713634	0.786247

>>> Plotting Training History...

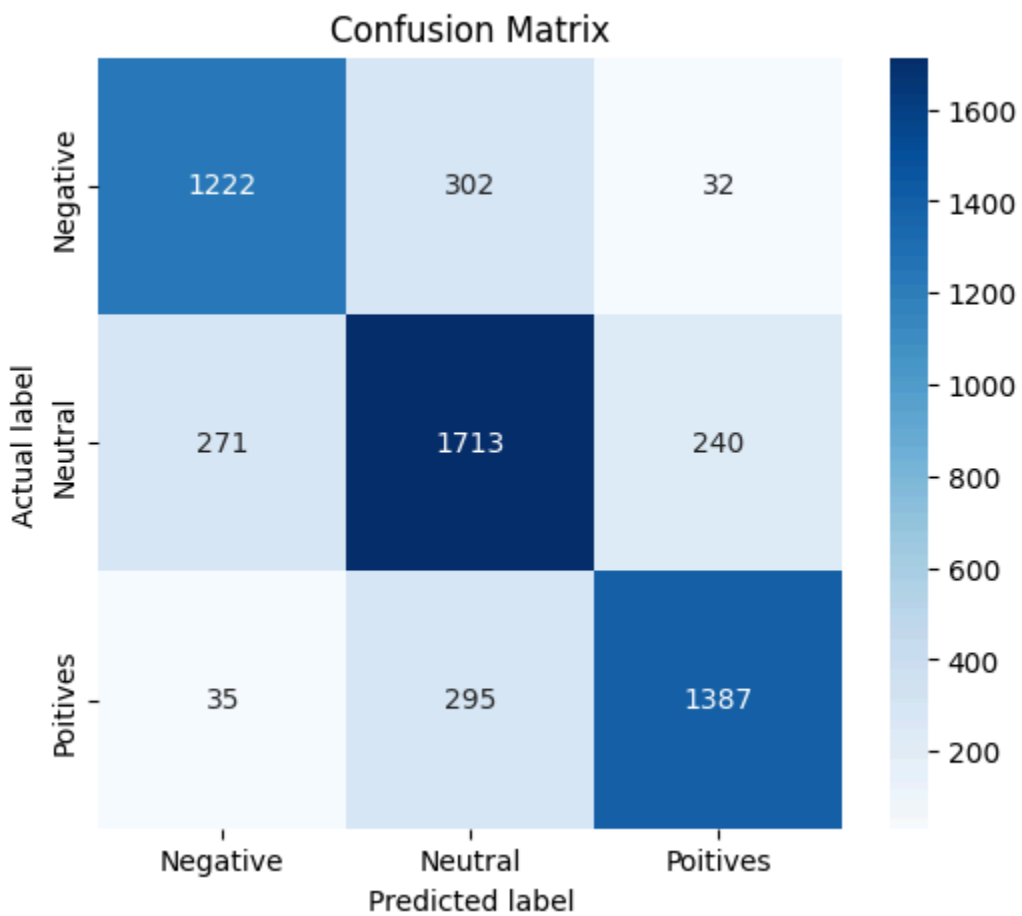


>>> Running Evaluation...

Overall Accuracy: 78.62%

Classification Report:

	precision	recall	f1-score	support
negative	0.80	0.79	0.79	1556
neutral	0.74	0.77	0.76	2224
positive	0.84	0.81	0.82	1717
accuracy		0.79		5497
macro avg	0.79	0.79	0.79	5497
weighted avg	0.79	0.79	0.79	5497



ERROR ANALYSIS

>>> ERROR ANALYSIS: Inspecting Mistakes...

[!] FALSE POSITIVES (Actual: Negative -> Predicted: Positive)

Found 32 mistakes.

	Text	Actual_Label	Predicted_Label
	not ideal bank holiday conditions.. a little over cast and rainy but perfect for a lazy day with a dvd	negative	positive
	i thought you would win! Fabulously40 have some bots on her side?	negative	positive
	Awww, *hugs* I wish I could help.	negative	positive
	I can't believe you tweeted that. It was our special moment	negative	positive
	So glad the days almost over... Another nite of me nd my pain pills alone at the crib lol. Ughh I wish this weekend was over already!	negative	positive
	_Happy_EmoX lmao. Lucky! It's 10 minutes on foot for me ewwww..... School.lol. On the bus now.	negative	positive
	apologies don't fix hurt feelings kev. anyway i'll get it from u next time I c u.	negative	positive
	I miss my dog r.i.p.Batman... Yeah, Batman (I really hope `all dogs go to heaven` is true)	negative	positive
	Oh, don't spoil my fun, lol	negative	positive
	victory for the bulldogs was celebrated by 3 white chocolate cheesecakes nom nom nom WHATTA FATTYYY	negative	positive
	Obviously not too bad	negative	positive
	I'm not! They frighten me to death.....I just like to see all the boys in their leathers! :) We go every year. Brilliant atmos!	negative	positive
	omg me 2 !! Haha i was half an hour late 4 work whoops !! Hahaha i h8 workin sat mornins	negative	positive
	Intel gfx driver situation much better with recent upgrades. kernel 2.6.30rc4 and driver from git: Suspend working again, fewer mem leaks	negative	positive
	Please don't vote for her out of sympathy! #BGT	negative	positive
	Time to get ready for wrk! Ahhhh, I dnt wanna goooo!	negative	positive
	_august84 hahahaha now that is a spooky wish babes how about a lifetime supply of shoes with matching bags and constant weight?	negative	positive
	Rest in peace marshall	negative	positive
	on jacksonville beach walking in the cold **** water but have to work in the morning ily <('`')>	negative	positive
	moving back home today. pro: obnoxiously closer to con: no more mpls runs/excursions for at least a year.	negative	positive
	It was going to happen one day but I so feel for the girl AND her mum	negative	positive
	i really wanted to go out cause its so nice but everybodys busy	negative	positive
	Well, at least it's not as bad as I thought. Found a new website to watch movies on and I gotta say.....it's not bad, not bad at all	negative	positive
	Just got off the phone with lainey the love of my life . . . Now im taken a ****	negative	positive
	YOU'RE FAKING IT! Hahaha...I kid.	negative	positive
	One downside of the nice weather: It brings of the chavs...	negative	positive
	Taking 40 underpriveledged kids to the circus 2moro. BIG day planned & I still aint feeling 100% so nervous right now..	negative	positive
	a reply from would make my life, he replies usually to the people who call him ****, then he tells them he willblok them	negative	positive
	a great song by East Clubbers	negative	positive
	yeah it made a great noise, and tripped the house circuit breaker. Good Times. \$200 worth of parts too	negative	positive
	Fishing on WoW while listening to ska on Pandora. Such a lazy Sunday morning	negative	positive
	Other than that, you are totally bereft of faults in every way	negative	positive

[!] FALSE NEGATIVES (Actual: Positive -> Predicted: Negative)

Found 35 mistakes.

	Text	Actual_Label	Predicted_Label
	not in this part of Surrey either, feeling quite a bit nippy I must say. Afternoon to you	positive	negative
	no happy hour for me today	positive	negative
	recovering from being sick ... anyone want to bring me soup?	positive	negative
	Ohhhh! Ok! thought that I was going nuts!! Maybe they will pass through here on the way back!	positive	negative
	whoaaaa. just got an overwhelming itus attack after eating	positive	negative
	alas, I am moving (like where i'm moving too, but the actual moving, ugh) wish I could go too!	positive	negative
	got 34/40 for exam 1... percentage doesnt look good.	positive	negative
	almost died. Laptop screen was set to 100% brightness after I reinstalled Windows Vista. Got a headache now #insanedefaults	positive	negative
	wish I was 17 again	positive	negative
	Haha! I can't a good vid of it on tubey,you thugh	positive	negative
	Woot freaking hoo, tho Mad World isn't doing well on the iTunes top #100 chart.	positive	negative
	So, I picked up Chris Botti's~Live in Boston CD, listening while driving home tonight under the moon. Didn't want it to end.	positive	negative
	hmmmmi2!%being home isn't *all* great http://u.nu/8m68	positive	negative
	Plane tickets to UK and everywhere in Europe are BEYOND cheap (for June-Oct!), but there's NO gig in the near future announced yet	positive	negative
	Ohhhhhh what a line	positive	negative
	Whew! Moving commercial-sized freezer and cooler a lot more work than I expected. Missing the HTC roundtable	positive	negative
	Very succesful Cancertown Launch yesterday	positive	negative
	I wish my sister lived near me	positive	negative
	Aww ya not showing off all us mums should be proud of ours kids and let everyone know it	positive	negative
	havent been on here in ages sorry twitter.. tweetdeck is broken	positive	negative
	I sorry	positive	negative
	Well can ya please send some luvin to im sensing deep fiery anger surrounding his presence right now...	positive	negative
	awe I am sorry, probably true.	positive	negative
	Redskins release Jon Jansen. That guy put in a ton of sweat and bruises for the team. He will be missed. http://tinyurl.com/mdewfk	positive	negative
	Oh aye.....he rocks, shes ****	positive	negative
	Screw the reviews, I thought Wolverine was awesome. But not enough Dominic Monaghan for my liking.	positive	negative
	I will not be late. I will not be late. I will not be late.	positive	negative
	STRESSED AS HELL (; but still surviving	positive	negative
	Just booked my tickets for London on thursday, i'm so excited	positive	negative
	Shite night, tomorow, I get to hang out with my little brother and neice, should be sufficient enough to change my mood	positive	negative
	Why don't we close the library due to the great weather? And the ac isn't working #fb	positive	negative
	I'm Christine and I'm a friggin` shopaholic. Check out my new coat Had to promise someone I wouldn't spend for 2 weeks after buying this	positive	negative
	KERI HILSON- SLOW DANCE ROCKIN` THE **** OUT OF MY PLAYLIST RIGHT NOW! GET UP ON THIS SONG, PURE **** DROPPER	positive	negative
	Nothin better then ridin in a car with your sister while blasting TH, CB and Lady Gaga so loud you cant hear yourself screamin the lyrics	positive	negative
	_navarro I wish this area offered chinese food delivery	positive	negative