Final Results

1-final Training results :

-So a lot of things changed since the preliminary results , I was able to experiment with different model, for example I implemented an MLP models and I tried to implement an LSTM and a Transformer infortunatly it was too computationnaly expensive for my compyter and also for the free GPU given by google colab so I had to stick with a simple MLP or feedforward neural network , I also changed my aproach to data preprocessing instead of using a simple one hot encoding method , to vectorize my ingredients I used the Glove pretrained model with 50dimention per word to change my data from words to vectors which I found to be much more effective overall though not perfect , again the goal is not to be perfect but to give plausible suggestion because it s a recomendation engine, further more , to get over the problem where the recipee is only apearing one time I decided to add more collumns to my dataset where I randomize the number of ingredients that can predict the specific recipe (ofc according to its own ingredients), thinking about it right now ,I should have probably added more noise to my dataset by adding to each recipee some random ingredients that the recipe might not use .

By implementing this aproach i was able split my data into a training and testing set which achieved an overall accuracy of 77.66% , a precision of 80% nad a recall of 77,66%. And the final loss after training was 0.52 , which I concider to be pretty good thought it might have been better if we had implemented an LSTM or a Transformer , but for a simple MLP model I concider it to be quit goot results.

2-Final demonstration proposal :

I am going to try to deploy the model through Flask and using some basic Html and Css and Javascript for the front end,I've chosen this stack for it's ease of use , which would give me more time to focus on the Machine Learning part rather than the deployment part, I was also thinking of using streamlite but I'll stick with flask as it would be a good experience for to learn how to use Flask for model deployement . I've already used Javascripts though my knowledge is pretty limited , I still think it would be enough for this project , I might also Use some UI toolkits such as Bootstrap which would make creating my forms and my landing page more UI friendly. Though it s my first time using flask for the backend,I do have some experience in the backend in other frameworks , I still think that flask would be the best because of it s ease to use and implement and learning it through a project would be Ideal , I ve also chosen it because it's a python framework and since we built our model also in python It'll be very easy to set up our model on it.