Qualcomm :

Round 1 : (Senior ML engineer)

Interviewer already gone through my resume, which had 1 ML project 1 NLP project so he picked up elements and keywords

Interview started with basic question,

I have labeled data which has almost a linear relation between dependent & independent variables , which ML model will you employ?
For instance , Take example of amount of rainfall for output variable (continuous target variable)

Few follow up questions

Can you write the general equation for this model ?

Output variable continuous or discrete?

What if the output variable does not follow a linear relation ?

How do we get the best fit line ? How we can obtain optimal weights for indep variables ?

Suppose output variable is number of persons or number of balls then this is what type of problem regression or classification?

Name some classification algo?

Write the sigmoid function? And draw its curve

What if we have multiclass classification and how sigmoid will help ?

In what scenarios naive bayes will perform better than logistic regression ?

Suppose I am the owner of the company and I have 100 bolts out of which 80 are good and 20 are defective...
Now i have to implement such a model which never classifies defective into good, how can we achieve this?

Have you heard about data balancing ?

What happens to true positives and false positives if we change the threshold in the sigmoid curve?

Draw ROC curve, how ROC curve changes as we lower the threshold from 0.5 to 0.3

Define precision, recall, give scenarios in which precision is more useful than recall?

What are ensemble techniques?

Difference between Bagging with all base models as decision tree and random forest?

How can we minimize overfitting problems in decision trees?

Why does voting algo give better accuracy than a single model?

How do bagging and boosting differ?

For misclassified data in bagging, weight increases or decreases ?

How do gradient boosting and xgboost differ?

What all optimizers u used so far?

In what scenarios DT are mostly used??

How to avoid multicollinearity?

What is PCA?

CAN we use pca for avoiding multicollinearity?

Probability Question :

Suppose You are the empire of a world cup match and you are having a biased coin in your hand and you are unaware about the coin, head biased or tail biased, and if head biased, then

to what extent, now in such a scenario you have to make a fair decision with this coin toss? What strategy will you follow?

Tell me the difference between ANN, CNN ? Their architecture

Suppose you are having 4*4 image and you want to flatten this to 16*1 ? Which model will you use? And why?

Training cost for CNN will be more or ANN in this?

For feature extraction what we use?

How does the kernel help in feature extraction?

Name some activation functions
Draw the curve for the relu function?

Can you use ANN for linear regression?

Relu can be used as an activation function in case of linear regression...

Can we implement any ML model using ANN ?

Interviewer asked , Do you have Any questions for me ?

Then after a hour break

Round 2 :

He asked me to open paint and derive normal equation in linear regression which is

b = (X'X)^-1 X' Y

After a few hints I was able to derive . Interview Ended .