

Company : Boston Consulting Group (Data Engineer)

Write a code in python for giving the names of top scorers in each subject if you have a list containing 'n' number of tuples and each tuple has name, subject and scores for the subject.

Eg. [(Nivedita,English,80),(abc,Maths,90),  
(xyz,English,75),.....]

Print the output for each subject and names of toppers.

Company :- IPsoft/Amelia Global Services (R&D Engineer)

1<sup>st</sup> Round :-

- Write a python program for 2 sum and check if two strings are anagrams.
- ML related questions including use cases of Logistic regression and SVM, How F1 score is calculated and when it is preferred
- Assumptions of Linear Regression, Imputation techniques and their use cases
- What is vanishing Gradient descent, Overfitting prevention techniques in Machine Learning as well as Deep learning
- Probability based question
- Bagging/Boosting, Decision Tree, Entropy, Gini Impurity, pruning

2<sup>nd</sup> Round :-

- What is Pre-pruning & Post-Pruning
- BERT /Transformer
- How dropout technique actually helps in preventing overfitting?
- Optimizers & Activation functions (Tanh, RELU, Leaky RELU, softmax)
- Vanishing/Exploding Gradient descent ,Gating Mechanisms and how does it help?
- CNNs, Maxpooling/average pooling why they are used. What are residual connections?
- Project based questions

3<sup>rd</sup> Round :-

Asked about Large language models or If I have worked on any projects relevant to that

Or Image or text based data. Mainly explained MTP project

4<sup>th</sup> Round:

How would you design a convolutional neural network from

scratch and why you will use them?

What are different types of data biases in general as I had mentioned in my MTP thesis project that I worked on removing dataset bias

Vanishing gradient problem ?Is it possible to have this problem in a small network of 5 input layered LSTM model?

Have you ever worked on explainable AI?

I mentioned feature importance in one of the answer so follow up question was what is local feature importance and what is global feature importance and what is interpretability means in case of models.

What is Boosting and how it works and some follow up questions?