

These are the 7 areas you need to prepare in for DS/ML interviews. Each company uses a different combination of these areas.

Coding

Complete the LeetCode Blind 75

<https://leetcode.com/discuss/general-discussion/460599/blind-75-leetcode-questions>

Need solutions to the questions? Check out NeetCode

https://www.youtube.com/watch?v=KLIXCFG5TnA&list=PLot-Xpze53ldVwtstag2TL4HQhAnC8ATf&ab_channel=NeetCode

Prob/Stats

1. Understand fundamentals through [Emma Ding](#) playlist

https://docs.google.com/document/d/1rKc2Ud7IPdgSMHhSqZqlwVWi7jriFKZ6Felv_8ZFvJA/edit

2. Complete [Udacity](#)'s Free Course on A/B Testing - it covers metrics and calculations -

<https://www.udacity.com/course/ab-testing--ud257>

SQL

If you are absolutely new to SQL, start with

<https://leetcode.com/studyplan/top-sql-50/>

If you know your way around SQL, check out DataLemur SQL Interview Questions

<https://datalemur.com/questions>

Machine Learning

Understand the basics which includes -

★ Feature Engineering and Selection

Understanding missing value imputations, normalization/scaling and few feature selection techniques.

★ Bias & Variance - Overfitting/Underfitting

Understand how to decide between model based on theory
Know different regularization methods and impact of each.

★ Loss functions

Yes, you need to know the formulae of MSE, MAE, Log-Loss etc.

★ Linear Regression, Logistic Regression, Tree models, k-Means

What are the model assumptions and how do you decide when to apply what.

The best learning resource, IMO - <https://www.statlearning.com/>

Deep Learning

Understand the basics such as optimizers, loss function, and basic architectures (MLP, CNN, RNN).

The best learning resource, IMO - <https://www.deeplearningbook.org/>

Case Studies

A case study round can be quite broad, e.g. "Assume you are Data Scientist at Etsy. You want to increase the add to card rate. How would you go about it?"

The best way to approach such question is to have a framework -

1. Ask questions to narrow down the problem area
2. Suggest and use feedback to decide business metrics relevant to problem
3. Decide the best ML formulation (classification/forecasting/recommendation)
4. Decide on model metrics that can tie to business metrics.
5. Suggest which models you would experiment with
6. Explain how you would productionalize.
6. Explain how you would A/B test the final model

For practice check out this video

https://www.youtube.com/watch?v=nPJKFWMilC8&ab_channel=EmmaDing

And this playlist

https://www.youtube.com/watch?v=QJat_nicj9c&list=PLY1Fi4XfIWSvtu963rZpfH6WeX54vSrDW&index=2&ab_channel=EmmaDin

Behavioural

Understand how to research and tell stories

<https://www.levels.fyi/blog/behavioral-interview-prep.html>

Get some practice with one of the tougher culture fit critics - Amazon

<https://www.levels.fyi/blog/amazon-leadership-principles.html>