Data structures: using data structures inefficient for a specific role or tasks will result in performance bottlenecks

Data scientist may have many different roles and responsibilities – need to have broader knowledge

Algorithms and time-space complexity: important to understand efficient ways to work with large amounts of data and implement them in code

I think that companies are focusing on technical/programming types of questions because of the broad roles and responsibilities of data scientists. Data scientist positions may involve a variety of tasks from data wrangling to developing data pipelines and machine learning models. These tasks require strong programming skills. In any case, data scientists are likely working with large amounts of data.

To develop efficient code that handles the data, data scientists need to have adequate knowledge of data structures and algorithms. Using data structures that are inefficient for a specific role can result in performance bottlenecks, while choosing an algorithm with greater time complexity may slow down work. I think companies are searching for candidates with a solid understanding of which data structures and algorithms will minimize memory usage and computing time.

Data scientists may also work closely with software developers and other engineers. In small to mid-sized companies, some of the responsibilities of a data scientist may require full-stack development skills.

Technical interviews provide an opportunity for companies to measure the foundational knowledge that applicants have in writing efficient code and gauge how well they will apply what they know in their work as a data scientist.

<https://medium.com/swlh/why-data-scientists-should-learn-algorithms-and-data-structures-4d93237a1026>

<https://towardsdatascience.com/a-data-scientists-guide-to-data-structures-algorithms-1176395015a0>

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