A Report on Alumni Guest Lecture on
"Career Opportunities in Data Science: Data Engineer"
Organised by Department of Computer Science & Engineering - (Data Science)
on 03.09.2024

Organised & Report Submitted by: Mr. G Kiran Kumar, Assistant Professor, Department of Computer Science & Engineering (Data Science)
Resource Person: Mrs. K. Harini (Alumni of CSE(DS) 2020-2024 Batch), Working as Premier Gradute Engineer Trainee, Data Engineer at Hexaware - Chennai.
Participants: III Year B. Tech – CSE (Data Science).
Mode of Conduct: Online.
Venue and Time: WB – 219 & 1:00 PM to 2:00 PM
Report Received on 17.09.2024.

A Guest Lecture on "Career Opportunities in Data Science: Data Engineer" was organized by the Department of Computer Science & Engineering (Data Science) for III B. Tech students.

The Guest Lecture was started at 1:00 P.M in WB – 219, the dignitaries were Dr. S. Kusuma, HoD – CSE, K. Harini, Working as Data Engineer, Hexaware, Chennai, Dr. R. Kiran Kumar, Alumni Relation Officer, Mr. G. Kiran Kumar, Department Alumni Coordinator.

The lecture was started with opening remarks by, Dr. S. Kusuma who thanked Management for this great initiation of creating an opportunity to invite the Alumni members of the institute and enabling them to interact with the students and enlightening them with the current developments in the corporate world. Dr. R. Kiran Kumar has shown pleasure and promised to conduct many more lectures in future for the benefit of the students.

Mrs. G. Kiran Kumar introduced the speaker and invited him to share his valuable experiences to the students. The number of students participated in the lecture were around 60.

Data Scientist to Data Engineer:

1. Role Evolution in Data Science

- Highlight the transition from Data Scientist to Data Engineer as a natural progression in the data science field.
- Discuss how the roles are complementary, with Data Scientists focusing on data analysis and modeling, while Data Engineers ensure that data pipelines, infrastructure, and storage systems are robust and scalable.

2. Skills Overlap

- Mention the overlapping skill sets, such as programming (Python, SQL), data manipulation (Pandas, Spark), and understanding of databases.
- Emphasize that many Data Scientists gain engineering skills to better understand the data they work with and to improve the efficiency of their models.

3. Importance of Data Engineering in Data Science

- Explain how Data Engineers lay the groundwork for Data Scientists by building and maintaining the data architecture, which allows for seamless data access and analysis.
- Highlight the importance of clean, well-organized data, which is crucial for accurate data science outcomes.

4. Technical Expertise Expansion

- Describe how moving from Data Scientist to Data Engineer involves deepening technical expertise in areas like data pipelines (ETL processes), cloud computing (AWS, GCP, Azure), and big data technologies (Hadoop, Kafka).
- Discuss the importance of mastering tools like Apache Spark, Hadoop, and data warehousing solutions like Redshift or Big Query.

5. Career Growth and Opportunities

- Discuss the career growth opportunities that come with expanding into Data Engineering, including roles like Senior Data Engineer, Data Architect, or Big Data Engineer.
- Mention that the ability to work across both data science and data engineering can make professionals more versatile and valuable in the job market.

6. Industry Demand

- Explain how the demand for Data Engineers is increasing as companies require more sophisticated data infrastructure to handle the growing volume and complexity of data.
- Point out that this demand is driving competitive salaries and a strong job market for professionals with Data Engineering skills.

7. Practical Applications

- Provide examples of how a Data Engineer supports a Data Scientist, such as creating a data pipeline that automatically cleans and pre-processes data, making it ready for machine learning models.
- Discuss real-world scenarios where Data Engineers have enabled Data Scientists to deploy models at scale, improving business outcomes.

Conclusion:

Conclude by reinforcing the idea that the transition from Data Scientist to Data Engineer is a strategic move that can broaden career opportunities and enhance one's impact in the data field.

The outcome of the programme:

The program outcomes for students attending a webinar on " Career Opportunities in Data Science: Data Engineer " could include several educational and skill-based benefits.

- Learn to apply statistical models such as regression, classification, clustering, and time series analysis.
- Understand the fundamentals of machine learning, including supervised and unsupervised learning.
- Develop skills in building, evaluating, and tuning machine learning models using Python or R.
- Learn about different algorithms such as decision trees, random forests, neural networks, and support vector machines.

The session is completed at 2:00 P.M, and he clarified the queries of enthusiastic young minds with a great zeal during the interaction time.

Vote of Thanks:

Mr. G. Kiran Kumar proposed a vote of thanks to the Resource person, HOD and Alumni Relations Officer for attending the function. He extended his thanks to the Principal, and the Management for their support to conduct the training.