



HEALTHCARE DATA ANALYST

• COURSE MODULES

• Module 1:

- Introduction to Data and Data Analytics in Healthcare
- Understanding the Role of Data in Healthcare
- Introduction to healthcare data sources and Types
- Exploring the importance of data analytics in healthcare decision-making
- Overview of big data in Healthcare
- Responsibilities and ethical considerations of a healthcare data analyst

• Module 2: Fundamentals of Data Analysis

- Introduction to data analysis concepts and methodologies
- Exploring different types of data analysis techniques
- Data preprocessing and cleaning techniques
- Data visualization and presentation techniques

• Module 3: SQL and Data Warehousing

- Introduction to Structured Query Language (SQL)
- Understanding relational databases and data modeling
- SQL querying and data manipulation
- Introduction to data warehousing concepts (on-premises and cloud-based solutions)
- Designing and implementing a data warehouse for healthcare data

• Module 4: Statistics for Data Analysis

- Key statistical concepts for data analysis
- Descriptive and inferential statistics in healthcare
- Probability distributions and hypothesis testing
- Regression analysis for healthcare data

• Module 5: Excel for Data Analysis

- Introduction to Microsoft Excel for data analysis
- Basic functions and formulas in Excel
- Data cleaning and transformation in Excel
- Advanced Excel techniques for data analysis (pivot tables, macros, etc.)



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• **Module 6: Power BI for Data Visualization**

- Introduction to Power BI and its features
- Connecting to data sources and data transformation in Power BI
- Creating interactive dashboards and reports
- Advanced visualization techniques in Power BI

• **Module 7: Python for Data Analysis**

- Introduction to Python programming language
- Data manipulation and analysis with Python libraries (Pandas, NumPy)
- Data visualization using Python libraries (Matplotlib, Seaborn)
- Introduction to machine learning in healthcare using Python

• **Module 8: Predictive Analytics and Time Series Forecasting**

- Understanding predictive analytics in healthcare
- Building predictive models for healthcare data
- Time series analysis and forecasting techniques
- Evaluating and interpreting predictive models in healthcare

• **Module 9: Healthcare Domain Knowledge**

- Introduction to the healthcare domain and its unique characteristics
- Key healthcare terminologies and acronyms
- Understanding healthcare business processes and workflows
- Regulatory and compliance considerations in healthcare data analysis
- Each module can consist of lectures, hands-on exercises, case studies, and assessments to ensure practical understanding and application of the concepts. Additionally, you can consider incorporating real-world healthcare datasets and projects to provide students with hands-on experience in analyzing healthcare data.