Data Science (3 semesters) - Certification

1st semester (Data Exploration and visualization)

1. **Statistics with excel**

    1. Descriptive statistics

    2. Data Visualization

    3. Understanding charts and visual conventions

2. **Power BI project for data visualization**

3. **Python**

- Introduction to programming languages
- Data Types and Variables
- Control Flow and Loops
- Functions and Modules
- File Handling

4. **Version Control**

- Introduction to Version Control
- Git Basics
- Branching and Merging
- Working with Remote Repositories (GitHub, GitLab)
- Resolving Conflicts
- Best Practices in Version Control

2nd semester

1.Python for Data Science

1. Pandas

2. Numpy

3. Scipy

4. Matplotlib

2. Probability & **Statistics**

- 1. Probability
- 2. Distributions - Binomial,Bernoulli,Poisson, Gamma etc.
- 3. Hypothesis Testing
- 4. Mathematics for ML

3. ML basics with Python

- Introduction and types of ML
- Supervised Learning algorithms and its types
- Unsupervised Learning algorithms and its types
- Creating an ML model

4.MySQL

- Introduction to Relational Databases
- SQL Basics (SELECT, INSERT, UPDATE, DELETE)
- Database Design and Normalization
- Joins and Subqueries
- Indexing and Optimization
- Transactions and ACID Properties

3rd semester

4. Deep Learning with Python

- Neural Networks

- Model Tuning
- Deep Learning end to end project with cloud deployment - computer vision / NLP