

**Major Project 21CSA699A**

**Project Proposal (Coursera Mode)**

**Title: IBM Data Science Professional Certificate**

**Student Name:** **Nagendra N**

**Roll No: AA.SC.P2MCA2301019**

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| **Sl. No** | **Courses Selected** | Link | Engagement hours |
| 1. | IBM Data Science Professional Certificate | [IBM Data Science Certificate](https://www.coursera.org/programs/ahead-mca-2023-april-major-project-ug7j8/professional-certificates/ibm-data-science) | 160 hours |
| Total Duration: | | | 160 hours |

**Summary of the Project:**

This project involves the completion of the IBM Data Science Professional Certificate, designed to develop competencies in data science fundamentals, data analysis, and machine learning with Python. It includes a variety of tools, methodologies, and practical projects, culminating in a capstone project that applies knowledge in real-world scenarios.

**Main Objective/Deliverable:**

* Complete the IBM Data Science Professional Certificate.
* Gain practical experience in data analysis, data visualization, and machine learning.
* Develop a professional portfolio of data science projects.
* Prepare for a data science career with foundational and advanced skills.

**Timeline and Milestones:**

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| **Sl. No** | **Milestones** | **Timeline** |
| **1.** | What is Data Science | 06/11/2024 - 12/11/2024 |
| **2.** | Tools for Data Science | 13/11/2024 - 19/11/2024 |
| **3.** | Data Science Methodology | 20/11/2024 - 26/11/2024 |
| **4.** | Python for Data Science, AI & Development | 27/11/2024 - 03/12/2024 |
| **5.** | Python Project for Data Science | 04/12/2024 - 10/12/2024 |
| **6.** | Databases and SQL for Data Science with Python | 11/12/2024 - 17/12/2024 |
| **7.** | Data Analysis with Python | 18/12/2024 - 24/12/2024 |
| **8.** | Data Visualization with Python | 25/12/2024 - 31/12/2024 |
| **9.** | Machine Learning with Python | 01/01/2025 - 07/01/2025 |
| **10.** | Applied Data Science Capstone | 08/01/2025 - 14/01/2025 |
| **11.** | Generative AI: Elevate Your Data Science Career | 15/01/2025 - 21/01/2025 |
| **12.** | Data Scientist Career Guide and Interview Preparation | 22/01/2025 - 28/01/2025 |
|  | Final Review | 05/02/2025 onwards |

**Tools to be used for the project:**

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| **Software Tools** | **Specifications** |
| Jupyter Notebooks | For data exploration and analysis |
| IBM Watson Studio | Cloud-based data science and AI development |
| SQL Database | For SQL-based data querying |
| Python Libraries | Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn |

**Learning involved:**

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| **Topic** | **Description** |
| Data Science Fundamentals | Understanding the basics of data science and career roles |
| Data Science Tools | Overview and use of essential tools in data science |
| Data Science Methodology | Steps and approaches used in data science problem-solving |
| Python Programming | Developing proficiency in Python for data science applications |
| SQL | Data retrieval and management using SQL with Python |
| Data Visualization | Creating meaningful visual representations of data |
| Machine Learning | Introduction to machine learning algorithms and their applications |
| Capstone Project | Application of acquired knowledge to a comprehensive project |

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| **Date: 06/11/2024** |
| **Student Name: Nagendra N**  **Signature:** |