

# D596 Task 2 Writeup

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D596 The Data Analytics Journey

## Careers And Career Goals

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### Career Plan

#### Career 1: Business Intelligence Analyst

Business intelligence analysts are responsible for using data to help businesses make daily decisions. They gather key business datasets such as revenue, sales, or market trends to visualize data for key stakeholders within the company. They support the data analytics life cycle by providing insights and recommendations to improve business processes, especially in the Business Understanding, and Reporting & Visualization phases.

#### Career 2: Data Engineer

Data engineers design, build, and maintain the data infrastructure or pipelines for processing, storage, and retrieval. They maintain data pipelines with accurate clean data from various sources. Data engineers support the Data Acquisition, Data Cleaning, and Data Exploration phases of the data analytics life cycle.

#### Career 3: Machine Learning Engineer

Machine learning engineers handle the design, development, and deployment of machine learning models that solve complex business problems. Machine learning engineers will select, train, and evaluate models to predict future outcomes or classify data. They support the Predictive Modeling and Data Mining & Machine Learning phases of the data analytics life cycle.

## Comparison

While all three career paths are related to data analytics, they focus on and provide different types of support to the data analytics life cycle. Business intelligence analysts focus on the Business Understanding and Reporting & Visualization phases, data engineers focus on the Data Acquisition, Data Cleaning, and Data Exploration phases, and machine learning engineers focus on the Predictive Modeling, and Data Mining & Machine Learning phases. Each of their skill sets and responsibilities is unique and essential to their area of the data analytics life cycle.

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## ProjectPro Data Analytics Disciplines

ProjectPro provides a comparison of several different data analytics disciplines, notably Data Engineering, Business Analytics, and Machine Learning which are closely related to the three career paths I have chosen to consider. ProjectPro describes data engineering as the design and implementation of data architecture from the databases storing the data to the large-scale systems processing the data. ProjectPro differentiates business analytics from other disciplines as the statistical study and analysis of primarily structured business data with a focused scope on providing business solutions to specific problems. The machine learning discipline's goal is to create predictive models using machine learning concepts that can be applied to data problems.

## Bureau of Labor & Statistics Careers

The Bureau of Labor & Statistics provides information on the job outlook for data scientists, operations research analysts, and statisticians. All three careers are related to data analytics and have a positive job outlook with high median salaries. While statisticians make more than research analysts, there are significantly more job opportunities for research analysts. Data scientists have the highest median salary of the three careers while also having the highest number of employment opportunities.

The academic and professional skills required for these careers include a strong foundation in mathematics, statistics, and programming. Data scientists may benefit from a strong background in computer science, while statisticians require a stronger focused background in mathematics and statistics. Operations research analysts require a strong background in statistics as well as strong fundamentals in business.

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## Potential Career Goal

As a student pursuing an MSDA with a specialization in data science with an extensive background in software engineering, I am interested in pursuing a career as a machine learning engineer. This career path aligns with my strong foundation in programming, mathematics, and statistics, as well as my passion for solving complex business problems.

## CliftonStrengths Reflection

My top five CliftonStrengths themes are Restorative, Ideation, Relator, Analytical, and Intellection. My Ideation, Analytical, and Intellection themes fall under the strategic thinking leadership domain allowing me to absorb and analyze information to make strategic decisions. My Restorative theme falls under the executing leadership domain signaling that my drive to find answers helps me make actionable decisions. My Relator theme falls under the relationship-building leadership domain indicating that I can build strong relationships by connecting deeply with the right people. These themes are crucial for a machine learning engineer as they require strategic thinking and problem-solving skills to develop machine learning models.

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## References

Bureau of Labor & Statistics "Occupational Employment Statistics" Bureau of Labor & Statistics  
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