**Task 2: Careers and Career Goals**

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1. **Career Plan**

I have always wanted to be a data scientist. It is my dream job. The methods that I love doing when working with data are data cleaning, data exploration, data visualization, and building machine learning models. Going more into detail about machine learning models, it is truly fascinating how data scientists can make recommendation systems like the ones in Amazon, Netflix, etc. This is one of the reasons why I decided to pursue the MSDA-DS track, as I believe the degree will help me sharpen my data analytics skills and it will introduce me to data science concepts. Another motivating factor as to why I want to land a data science job is the pay. Data science roles tend to have high earning potential compared to most technology roles. Also, data science is very versatile. Many industries rely on data to drive decision-making and understand customer behavior. Anyone with a data analytics/data science degree can pursue various roles such as data analyst, data engineer, data scientist, etc. This is another reason why I wanted to get a master’s degree in data analytics, as I believe having the degree will increase my chance of landing a job related to data.

**A1. Describe three different roles or careers in data analytics**

There are many roles in data analytics, and I will describe three of them. One role is data scientist, and they are usually responsible for acquiring large amounts of data, cleaning data, analyzing data, and developing machine learning models to predict outcomes or classify data. Also, data scientists work closely with stakeholders, so they could align their analytical approach with the organization’s objectives. Data scientists are very well-rounded and they can manage complex data projects from start to finish. The second role is machine learning engineer, and they are usually responsible for building artificial intelligence models to solve problems. They choose the appropriate algorithms for a specific problem, considering factors like accuracy. Also, machine learning engineers train, develop, and deploy machine learning models into production environments. They make sure that the models run efficiently in production environments by optimizing the performance of the models. The third role is data engineer, and they are usually responsible for designing, building, and maintaining the data infrastructure. They are very important in their role, as their work allows data scientists and analysts to access high-quality data efficiently. Data engineers are also responsible for monitoring the performance of data systems, and when issues present themselves, they are the ones that fix it.

**A1a. Discuss the differences between the roles or careers from part A1**

While data scientists, data engineers, and machine learning engineers all work primarily with data, their responsibilities differ significantly in terms of primary focus. A data scientist mainly focuses on exploring and analyzing data to create data-driven solutions that meet the organization’s needs. Data scientists do not handle any data infrastructure or system, and they do not deploy and maintain any machine learning model. As for data engineers, their work mainly focuses on building and managing data infrastructure. They are responsible for improving the performance of data systems and monitoring the data systems continuously to ensure it is functioning properly. Analyzing data and deploying and optimizing machine learning models are typically outside of a data engineer’s job description. As for machine learning engineers, they are primarily focused on deploying machine learning models and ensuring they run efficiently in production environments. They also improve the machine learning models by optimizing it. Machine learning engineers are not responsible for any data analyzation or visualization, and they do not manage any data infrastructure.

**A2. Describe how each role from part A1 supports the data analytics life cycle**

All three roles mentioned in part A1 support the data analytics life cycle. Data scientists are involved in multiple Data Analytics Life Cycle phases. In the data cleaning phase, they make sure that the data is in useable format for analysis by fixing missing values, eliminating duplicates, and normalizing formats. In the data exploration phase, data scientists perform statistical summaries, correlation analysis, and data visualization to identify key patterns. In the predictive modeling phase, they choose machine learning algorithms that is best suited for a specific problem, and they train and evaluate the models using various metrics. Data engineers are very involved in the data acquisition phase. Data engineers are responsible for setting up data systems to collect data from various sources such as databases. APIs, etc. They make sure that the data systems can handle different data formats and convert them to be usable for data analysis. Machine learning engineers are very involved in the predictive modeling phase. They train, optimize, and evaluate machine learning models. They also monitor the performance and accuracy of the models in real-world applications.

1. **Compare three different data analytics disciplines as described by ProjectPro**

There are many different data analytics disciplines that are described by ProjectPro, but I will describe three of them which are: data science, data engineering, and artificial intelligence. Data science is a very broad field which involve collecting, analyzing, and interpreting data to extract actionable insights and solve business problems. Data science is more of an all-around field considering it is involved in the full data life cycle from start to finish. Data engineering mainly focuses on building and maintaining data systems that store and process large datasets. Data engineers are “considered to be the gatekeepers of data for a business (ProjectPro, 2024, para. 7),” which is why their roles are valuable in the business. Data scientists and engineers usually work together. Data engineers build the data systems that allow data scientists to work with data. Artificial intelligence mainly focuses on creating intelligent systems that perform many tasks. It involves developing and fine-tuning algorithms that enable machines to do special tasks like understanding a language or making decisions.

**B1. Identify three types of careers from the Bureau of Labor and Statistics government data in your career plan**

There are three types of careers from the Bureau of Labor and Statistics government data that are in my career plan. One of the careers is data scientist. Data scientists use data to identify patterns and trends, support decision-making, and solve complex problems. They have many responsibilities such as data cleaning, data exploration, data modeling, data visualization, etc. The average annual salary of data scientists is around $110,000. Employment of data scientists is also growing at a rapid rate. To be employed as a data scientist, employers usually want the applicant to have at least a bachelor’s degree in STEM. Another career is market research analysts. The role of market research analysts is to help businesses make informed decisions about marketing strategies, sales forecasting, etc. They usually collect data through surveys and interviews with customers and analyze the data to provide actionable insights. The average annual salary of market research analysts is around $75,000. It is also another job that is growing at a rapid rate. Market research analysts usually need a bachelor’s degree. The last career that I chose is operation research analysts. Operation research analysts use advanced analytical methods to help businesses solve complex problems. They use mathematics and statistics to analyze operations. The average annual salary of operation research analysts is around $83,000. It is also another job role that is growing rapidly. Employers typically want at least a bachelor’s degree in this role.

**B2. Identify your academic skills and needs for the careers considered in part B1**

To land a data scientist job, there are many academic skills that I must sharpen, and needs to be considered. Regarding academic skills, languages such as R, Python, and SQL are always used when analyzing data. Having a solid background in probability and statistics helps, as they are essential for analyzing data and building machine learning models. Knowing how to differentiate and use both supervised and unsupervised models is crucial in machine learning. Data scientists must also communicate well with stakeholders and be collaborative with cross-functional teams. As for the needs, I need to show proficiency in R, Python and SQL. I need to also have a deep understanding of statistical methods. Additionally, I need to improve my soft skills such as communication and collaboration. Since data scientist is my dream job, this gives me another reason to finish my master’s degree in data analytics here at WGU. I believe having this degree would help land a data scientist role. Another career that I want to consider is market research analyst. Regarding academic skills, market research analysts understand statistical methods and have basic math skills. They use languages like R and Python to analyze data. They are familiar with online survey platforms. They have critical and analytical thinking, and they are good at presenting findings to stakeholders. As for the needs, if I want to be a market research analyst, I need to have a solid understanding of basic statistical methods and I need to be proficient at math. The later courses in the master’s degree will certainly help me become better in statistics. I need to be familiar using R and Python for data analyzation. I also need to strengthen my soft skills such as communication and presentation. The last career that I want to consider is operation research analyst. Regarding academic skills, operation research analysts have a strong understanding in linear algebra, calculus, and statistics. Having a strong knowledge of algorithms and computational methods is important for the role. They are also proficient in R, Python, MATLAB and SQL. The soft skills include communication, critical thinking, and business knowledge. As for the needs, If I want to be an operation research analyst, I need to have strong skills in linear algebra, calculus, and st0atistics. I need to be proficient in R, Python, MATLAB, and SQL. I need to improve my soft skills such as communication and critical thinking. Also, if I want to increase my chance of landing a operation research analyst job, I need to have a master’s degree in STEM. This is another reason why I decided to pursue the MSDA track at WGU.

1. **Identify a potential career goal in your career plan based on your strengths and academic/MSDA track interests**

Wanting to be a data scientist is one of the reasons why I decided to pursue the MSDA-DS track. I believe this program will help me prepare for a data science role because this program provides foundational programming skills, real-world data projects, and exposure to tools used by data scientists. This program will help sharpen my SQL, R, and Python skills, which are fundamental for any data science job. Also, in the later courses of this program, I will be exposed to more advanced data analytics/science concepts, which I have always been interested in learning. I am determined to finish this program because I believe getting a master’s degree in data analytics will increase my chances of landing a data scientist role. I think the role of data scientist perfectly fits with me considering I enjoy working with data and extracting actionable insights to help businesses make data-driven decisions.

**C1. Reflect on your career strengths as identified in your personalized CliftonStrengths assessment results**

After taking the CliftonStrengths assessment, my top five strengths were deliberative, responsible, futuristic, discipline, and achiever. I think these strengths align with the career that I want, which is to become a data scientist. Regarding deliberative, the report from the assessment described me as someone who takes my time and does a lot of research before making a high-quality decision. I think this describes with the way I usually work with data. For example, before making the machine learning models, I like to learn more about the data I am working on. I create visualizations for all the variables in the data and identify trends and patterns from the visualizations. I take my time to understand the relationships between variables so I could identify the useful variables or features to put into my machine learning models. Regarding responsible, the report described me as someone who takes ownership, and is committed to stable values such as honesty and loyalty. This description fits with the I way work I work with data projects because I always take responsibility whenever I discover a mistake in my data analysis or data modeling process. I also do not use data unethically or violate privacy agreements. Regarding futuristic, the report described me as someone who is inspired by the future and what could be. This description fits with the way I work with data projects because I always look forward to seeing patterns and trends and if they could lead to meaningful predictions. I enjoy creating machine learning models that can forecast trends. Regarding discipline, the report described me as someone who enjoys routine and structure. This is true because I love following the same structure repeatedly. This relates to the way I work with data. I like to follow the Data Analytics Life Cycle structure from start to finish. For example, after collecting the data for my data analytics project, I clean the data first, and then do exploratory data analysis (EDA). After EDA, I create data visualizations to identify patterns and trends. Then, I start making machine learning models to predict future outcomes. I regularly follow this structure when working with data, and I try to not skip any phase from this structure. Regarding achiever, the report described me as someone who has a strong work ethic and is focused on goals. I agree with this description considering I strive for excellence when working with data. I make sure that the accuracy of my data analysis is as precise as possible, and I overcome complex problems when handling data.

**References**

ProjectPro. (2024, April 14). *Data Science compared with different analytics disciplines*. https://www.projectpro.io/article/data-science-compared-with-different-analytics-disciplines/175