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**CIDM 6325/70/MS-CISBA Capstone**

**Professor: Dr. Jeffry Babb**

**Data Analytics Assessment**

**What do I know?**

Competencies, skills, and knowledge where I am the most confident and proficient.

Data Manipulation: Using languages such as Python and R, I've worked extensively with libraries like Pandas to handle, clean, and manipulate data sets.

Statistical Analysis: I have a strong understanding of various statistical tests and methods used to draw insights from data.

Visualization: Using tools like Google charts, Excel, and Tableau, I can create comprehensive visualizations to represent data insights.

Sample of Work: Link to a GitHub repository where I've done an extensive analysis on data set.

<https://github.com/Jom123410/280222/blob/master/Activity13_01.ipynb>

<https://github.com/Jom123410/280222/blob/master/Activity14_01.ipynb>

<https://github.com/Jom123410/280222/blob/master/Copy_of_CIDM6352_Homework_2_Instructions.ipynb>

**Where am I weak?**

Competencies, skills, and knowledge where I am the least confident and proficient.

Big Data Technologies: I've had limited exposure to tools like Hadoop or Spark which are crucial for handling large datasets.

Time Series Forecasting: I have basic knowledge in this area but haven’t had a chance to apply it extensively.

Advanced Data Warehousing: My experience has mostly been with relational databases and less with advanced data warehousing techniques.

**What do I wish I knew and/or don't realize I am missing?**

I wish I had a deeper understanding of neural network architectures and optimization techniques.

I sometimes feel I might be missing out on the practical applications of Quantum Computing in Data Analytics, but it’s an emerging field.

**Samples and Sources of Knowledge:**

Courses: Seminar in Data Analytics: This course provided a comprehensive overview of the data analytics landscape. It covered the entire analytics lifecycle, from data collection and cleaning to analysis and visualization. Key modules included statistical techniques, machine learning basics, and the use of analytics tools like R and Python.

Quantitative Analysis: This course laid the foundation for applying quantitative techniques to economic data, helping to predict market movements, assess risks, and optimize portfolio performances.

Books: "Big Data and Business Analytics" by Jay Liebowitz: This book delves into the world of business analytics by exploring the challenges and opportunities that come with the vast amount of data in today's business environment. The author discusses the importance of using big data for competitive advantage and offers a mix of theoretical concepts and practical case studies.

Quantitative Methods: For Business, Management and Finance" by Louise Swift and Sally Piff: An exhaustive guide that offered a practical approach to quantitative problem-solving in business scenarios.

Online Platforms: Utilized platforms like DataCamp and Coursera to enhance specific skills.

**Summary Statement:**

With a strong foundation in data analytics, I possess the capability to transform raw data into actionable insights. While gaps exist in my proficiency, my enthusiasm for continuous learning ensures that I remain adaptive and forward-looking. I am eager to further harness the power of data to drive informed business decisions.

**Preparedness for Portfolio and Capstone:**

The diverse projects undertaken provide a robust foundation for my portfolio, showcasing the breadth and depth of my skills in data analytics. I am poised to integrate these into a capstone project that demonstrates the synthesis of data analytics with other curricular areas.

**Contribution Towards the Capstone:**

Why Data Analytics is Integratable: Data Analytics provides the actionable insights derived from raw data. These insights can be stored (Data Management), acted upon (Software Systems), and securely transferred and protected (Networking and Cybersecurity).

How Data Analytics Integrates: For example, insights from analyzed data could be deployed on a software application which, in turn, is hosted on a secure network.

Integration with Prior Work: My project on customer sentiment analysis integrated analytics with software systems. The analyzed sentiments influenced the features of a customer feedback application.

**Final Statement:** "Data Analytics is the heart of decision-making, taking inputs from well-managed data sources, processing it using systems, and ensuring its integrity and security. Data Analytics is the nexus where raw data metamorphoses into actionable business strategies, supported and safeguarded by robust management systems, innovative software solutions, and unyielding network security