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CS 499 Module 5 Journal

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**Artificial Intelligence Integration in Business Intelligence**

**Significance of the Trend**

The integration of AI into Business Intelligence (BI) systems is changing how organizations process and analyze data. AI-powered tools enhance data analytics by automating complex processes, providing predictive insights, and making more informed decision-making. This integration allows for the handling of large datasets with greater efficiency and accuracy.​

**Impact on Computer Science**

AI integration is pushing the boundaries of traditional data analysis, leading to the development of more sophisticated algorithms and machine learning models. This evolution is promoting experience in more than one skill, requiring professionals to have expertise in both AI and data analytics.

**Impact on Consumers, Workers, and Citizens:**

For consumers, AI-driven BI translates to more personalized services and products. Workers benefit from automated routine tasks, allowing them to focus on strategic initiatives. The public experiences improved services in areas like healthcare and public transportation, where data driven decisions help to improve efficiency and effectiveness (Shah, 2024).

**Alignment with Career Aspirations:**

Looking to become a BI developer/analyst, proficiency in AI technologies is becoming increasingly important. Understanding and implementing AI driven analytics will be crucial in developing advanced BI solutions that meet the evolving needs of organizations.​

**Self-Service Analytics**

**Significance of the Trend**

Self-service analytics empowers non-technical users to generate their own reports and insights without relying heavily on IT departments. This reduction in dependence of data access helps to provide a data driven culture within organizations and accelerates decision-making processes (Shah, 2024).

**Impact on Computer Science**

The rise of self-service analytics is influencing the development of user friendly BI tools and platforms. It emphasizes the need for intuitive interfaces and robust backend architecture that can support dynamic querying and real time data processing.​

**Impact on Consumers, Workers, and Citizens:**

Consumers may notice faster responses to market trends as companies become more agile. Workers across various departments can leverage data insights directly, enhancing productivity and innovation. Citizens benefit from more responsive and transparent services as organizations adopt data driven approaches.​

**Alignment with Career Aspirations:**

Focusing on self-service analytics aligns well with the role of a BI developer/analyst. Designing and implementing systems that enable users to interact with data independently will be a valuable skill in creating effective BI solutions.

One course outcome I’ve achieved so far is to “Demonstrate an ability to use well-founded and innovative techniques, skills, and tools in computing practices for the purpose of implementing computer solutions that deliver value and accomplish industry-specific goals.” In category one of the enhancements (Software Design Engineering and Design), I’ve successfully improved my previous code using more efficient and maintainable processes, through multiple tools which all contribute to the end solution to help deliver the goal in mind. I’ve also been able to achieve the outcome such as “Develop a security mindset that anticipates adversarial exploits in software architecture and designs to expose potential vulnerabilities, mitigate design flaws, and ensure privacy and enhanced security of data and resources.” By being able to improve security and allow sharing of code without hardcoded credentials, security has much improved and reduces the possibilities of vulnerability.

References

Shah, V. (2024, September 23). *Role of AI in business intelligence (BI)*. ThoughtSpot.

<https://www.thoughtspot.com/data-trends/ai/ai-in-business-intelligence>

**Part Two:**

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| --- | --- | --- | --- |
| **Checkpoint** | **Software Design and Engineering** | **Algorithms and Data Structures** | **Databases** |
| **Name of Artifact Used** | PublicAzureBudgetLoader.py | PublicAzureBudgetLoader.py | CREATEBUDGETTACKER.sqll |
| **Status of Initial Enhancement** | Completed | Completed | Completed |
| **Submission Status** | Submitted | Submitted | Submitted |
| **Status of Final Enhancement** | Submitted | Submitted | Submitted |
| **Uploaded to ePortfolio** | Uploaded | Uploaded | Uploaded |
| **Status of Finalized ePortfolio** | In Progress | In Progress | In Progress |