Mihir Patel

CS 499

Prof. Aly, Sherin

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Since beginning the Computer Science program, my focus has improved, but I haven't entirely changed my job goals. I knew in begin that I wanted to work with data when I started, but I wasn't sure which way to go. I've discovered from classes and projects that I like the combination of communication, coding, and problem-solving that goes into data analytics and data engineering.  
 My perspective has changed from "I just want a tech job" to a defined strategy of aiming for positions like data engineer or analyst and eventually moving up to senior or lead roles. I've researched industry trends, skill requirements, and job advertisements extensively. This research confirmed that my skill set in SQL, Python, Snowflake, and cloud platforms is in high demand. It also made me think about earning certifications, like Google Certified Data Analytics or even a master’s degree later on, to stay competitive.

As for course outcomes, I’ve already achieved a lot in software design and engineering and database development — I’ve built an ETL pipeline and structured code that’s secure, modular, and maintainable. I’m still working on deepening my work in algorithms and data structures, making my logic more efficient and scalable.

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| **Checkpoint** | **Software Design and Engineering** | **Algorithms and Data Structures** | **Databases** |
| **Name of Artifact Used** | churn\_etl\_pipeline.py – Python ETL script | churn\_feature\_engineering.py- feature creation logic | Snowflake SQL tables & views for churn analysis |
| **Status of Initial Enhancement** | Complete: refactored code, added logging, environment variables, and error handling | Initial enhancements added: tenure bucketing, risk scoring; planning further optimization | Basic tables created, raw data loaded, and view written |
| **Submission Status** | Submitted in Milestone Two | Included in Milestone One draft | Submitted draft SQL scripts for review |
| **Status of Final Enhancement** | Planning to add test scripts and config file support for ETL pipeline | Considering more efficient structures (dictionary mapping, vectorized operations) | Plan to automate loading into Snowflake via Python connector |
| **Uploaded to ePortfolio** | Uploaded draft version | Draft uploaded | Uploaded initial SQL scripts and screenshots |
| **Status of Finalized ePortfolio** | Not finalized – polishing narrative and visuals | Not finalized – working on more detailed explanation | Draft complete, will refine if major enhancements are made |