Data Engineering Final Project

Teamwork Reflection

Self-Reflection

Developing the stock prediction web app with Flask and HTML over the past weeks has greatly enriched my skills. From setting up the initial app architecture to designing the frontend interface, I feel that we all now have an applied and nuanced grasp of Flask as a framework. I also gained a deeper understanding of Dockerfiles and Docker Images, and how to host them on Azure. Deployment led me to deeper investigations into serving scalable web apps. If I were to do this again, priorities would be: spend more initial time on the technical and platform requirements, take a systematic analytics approach rather than ad-hoc attempts, focus earlier on user experience and responsiveness.

Some challenges that I personally faced in this project were that I was not able to give enough time to the project in the initial stages due to clashing deadlines and heavy workloads, leading to other people doing majority of the work in the starting phase. Another challenge for our team was that two members were travelling and had to collaborate remotely, however we were able to effectively collaborate and worked well together over github and Teams.

Overall the project fulfilled its goals - we built something technically challenging from end-to-end, learned immensely in areas a textbook could not convey alone including troubleshooting complex systems and the importance of problem decomposition, honed core self-learning behaviors that enable continuous mastery of dynamic tools and technologies crucial to our field. I'm proud of the final product given the timeframe, and I am confident these self-directed learning/building skills will enable me and my team to pick up new stacks and tackle difficult problems.

Peer Review:

Revanth Chowdary Ganga:

Positive Attributes:

1. Strong technical abilities in building core data pipeline architecture across different platforms like docker and azure
2. Provided critical troubleshooting to resolve issues efficiently
3. Dedicated support despite heavy workload

Areas of Improvement:

1. Faced challenges with time allocation across multiple priorities
2. Set up documentation or knowledge sharing processes for continuity
3. Prevent overwork and build in breathing room through timeline buffers

Udyan Sachdev:

Positive Attributes:

1. Strong leadership in driving project execution and handled obstacles proactively with solutions-focused mindset
2. Collaborated effectively remotely despite travelling across timezones during the project
3. Went above and beyond by taking on extra tasks amidst team bandwidth issues

Areas of Improvement:

1. Ensure knowledge transfer to team on aspects completed independently
2. Prevent overwork and build in breathing room through timeline buffers
3. Enable team in planning stages for better preparation and dependency management

Ayush Gupta:

Positive Attributes:

1. Excellent written/oral communication skills
2. Built alignment through project positioning, CI/CD, comprehensive demo video, and user-focused README
3. Collaborated effectively remotely despite travelling across timezones during the project

Areas of Improvement:

1. Faced bandwidth issues due to competing organizational priorities
2. Opportunity to increase ownership in technical/analytical components
3. Suggestion for more significant repository pushes for continuous integration

Feedback Session

Sitting together and discussing our stock prediction web app project provided great closure on both the technical outcomes and our individual growth. We collectively demonstrated strong perseverance and teamwork in building an end-to-end system despite various travel constraints and workload challenges that emerged. Udyan created a remarkable flask app that Revanth and I were able to integrate and host on Azure along with providing the required backend tables for supporting the app. We were also successfully able to run load tests while Ayush focused on the CI/CD, Github Actions, documentation of every step, and IaC.

While we are proud of accomplishing our objectives and learned immensely along the way, there are clear areas all of us can level up on - from communication and planning practices to preventing individual overwork by better dependency management. We also found common ground on needing more structured approaches to the data science components vs ad hoc attempts.

As we wrap up, it's evident this was a highly rewarding collaboration filled with mutual accountability, positivity and support amidst the inevitable roadblocks. We wish each other the very best, and know we can count on one another as lifelong peers to provide guidance, advice or just lend an ear whenever needed post-graduation and into our careers. The skills and self-sufficiency gained working together under pressure will serve us well. Excited for what the future holds!