**Self Evaluation:**

In this project, I contributed significantly to both the technical development and overall project execution. After the hands-on session on 10/3, I implemented several key enhancements to improve the model’s performance. One of the primary improvements was feature selection using Collaborative Filtering with Truncated Singular Value Decomposition (SVD), which reduced the number of features from 6 to 5 while retaining the most important information. This dimensionality reduction simplified the model and made it more efficient, with the total explained variance ensuring that significant information was preserved. Additionally, I performed hyperparameter tuning using Keras Tuner’s RandomSearch, optimizing configurations such as LSTM units, dropout rates, and dense layer units. To prevent overfitting, I applied regularization techniques like L2 regularization and dropout layers. I also integrated early stopping and learning rate reduction (via the ReduceLROnPlateau callback) to stabilize training and enhance the model’s robustness.

Beyond model enhancements, I collaborated closely with my teammate on the structured data model using XGBoost and took the initiative to develop a user-friendly web interface. This included a survey-based system for frontend data collection and personalized views for male and female patients to ensure a tailored user experience. Although our deep learning model did not meet expectations in this phase, I effectively communicated the challenges we faced, leading to collaborative problem-solving within the team. Moving forward, I plan to integrate time series data into our models to capture longitudinal trends and further improve predictive accuracy.

In addition to my technical contributions, I actively supported the creation of the technical report and PowerPoint presentation for the project. I ensured that the report clearly communicated our methodologies, model enhancements, and results, while the presentation effectively showcased our key achievements and future plans. By balancing technical depth with clarity, I helped ensure that both the report and presentation were accessible to a broad audience. Through these efforts, I aimed to contribute holistically to the project’s success, from technical development to effective communication.

**Peer Evaluation:**

**Ashna Ali**: She was instrumental in overseeing the machine learning and deep learning models for the female dataset. She led the development of the structured data model using XGBoost, ensuring it was optimized and well-prepared for integration. As our team lead, Ashna provided strong guidance, helping to keep us aligned with our goals and ensuring tasks were effectively distributed. Her attention to detail was evident as she also took the initiative to review and enhance the male models, contributing significantly to their accuracy. Throughout the project, Ashna and I maintained consistent communication, which enabled us to address challenges promptly. Her proactive approach and commitment to improvement will undoubtedly enhance our team's performance in future assignments.

**Venkat Sai:** Venkat made valuable contributions in enhancing the machine learning models and playing a key role in developing the technical report and presentation. He worked closely with Sai to ensure that the male machine learning and deep learning models functioned smoothly. His efforts in sourcing datasets from diverse platforms significantly enriched our model training. I believe that Venkat's way of communicating about the future of our project is appreciable.

**Sai Kiran:** Sai collaborated on the development of the male machine learning models showcasing his teamwork to the project. He actively engaged in discussions, asking insightful questions to ensure that his contributions aligned with the project’s goals. Additionally, Sai played a key role in creating the technical report, presentation, and interview questions, showcasing his commitment to the team’s success.

**Scores:**

1. **Ashna Ali - 25**
2. **Sreevardhan - 25**
3. **Venkat Sai - 25**
4. **Sai Kiran - 25**