Self and Peer Review

By: Sai Kiran Basetty

Team Name: Data Divers

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**SELF REVIEW**

During this project, I contributed significantly by working on multiple key components, including developing a PowerPoint presentation, researching future advancements for the technical report, and evaluating interview questions proposed by my teammate Sree Vardhan. I also played a crucial role in documenting the dual model idea presented by Venkat in a clear way, ensuring it was well-articulated and aligned with our project's goals. I and Venkat proposed the next steps for the project development.

In Assignment 2\_1, I developed an Artificial Neural Network (ANN) to predict diabetes using the Pima Indians Diabetes dataset. This model included two hidden layers with ReLU activation functions and a sigmoid activation function in the output layer for binary classification. I utilized dropout layers to prevent overfitting, which helped enhance the model’s generalizability. This ANN served as a baseline model and provided a solid foundation for future iterations that could handle multi-class classification involving pre-diabetes, type 2 diabetes, and gestational diabetes.

In Assignment 2\_2, I and Venkat worked together and contributed to creating a prototype of the Triangle Model, integrating into a streamlined workflow involving three components: Keras for model development, Stream lit for an interactive frontend, and MongoDB for data storage. This architecture facilitated real-time interactions where users could input health data and receive diabetes predictions, making the model accessible and practical for real-world application.

While developing these models, I faced challenges, particularly with data inconsistencies and integrating multi-modal data and also the connection issues while building triangle model. I and Venkat were able to resolve it by changing some of the environment variables and configurations. Addressing data issues required extensive data preprocessing and feature engineering, which enhanced my skills in handling real-world data. The limitations of the model in processing multi-modal data also led to valuable insights into the importance of adaptable and scalable model architectures.

I actively participated in team discussions and provided feedback on various aspects, such as the design of the user interface and backend model improvements. I collaborated closely with my teammates, especially during the development of the Triangle Model prototype, where we encountered technical difficulties but managed to resolve them through collective problem-solving. My involvement in evaluating and refining the dual model approach proposed by Venkat also demonstrated my commitment to enhancing our overall project strategy.

Reflecting on this experience, I realized the importance of cohesive teamwork and the need for synchronized efforts to avoid discrepancies in project outcomes. Moving forward, I aim to contribute more actively to aligning our ideas and approaches, ensuring that our project evolves in a unified direction. I also plan to deepen my understanding of advanced deep learning techniques, such as ensemble learning and transfer learning, to enhance model performance further.

Overall, this project has been a valuable learning experience, strengthening my technical skills and collaborative mindset. I look forward to contributing to our future assignments with a more strategic approach and a focus on refining our model to meet our project’s objectives.

**PEER EVALUATION:**

**Ashna Ali:** As a team lead, she consistently offered guidance and technical support whenever the team encountered difficulties, especially during the integration of the triangle model. She is always available for discussions, or to help with trouble shoot issues regardless of her schedule. She played a key role in developing a robust model that not only achieved high accuracy but also skillfully integrated multi-modality, which added significant depth to our dataset. Her willingness to assist, guide and motivate the team created a positive and productive work atmosphere.

**Sree Vardhan Reddy Soma:** He consistently attended all meetings and actively participated, always ready to contribute regardless of his schedule. He was available to work at any time, showing a flexible and supportive attitude by never saying no to any task. He shared thoughtful ideas for future project developments, adding valuable insights to our discussions. His dedication was evident in the development of a model that achieved better accuracy, although it did not incorporate time series data. Despite some limitations, his commitment and readiness to support the team made a positive impact on our collaborative efforts.

**Venkat Sai:** Venkat and I worked closely together on Assignment 2\_2 and were also responsible for creating the PowerPoint presentation and implementing future advancements in the project. Throughout this process, Venkat was always available, making himself accessible at any time to connect and collaborate. Our coordination was seamless, as we shared and expressed our ideas openly and effectively without any issues. His positive attitude and willingness to engage in discussions made working together a smooth and enjoyable experience. Our partnership greatly contributed to the success of our tasks and strengthened our overall project outcomes.