Project Design Phase
Proposed Solution

Date: -	21th October, 2023
Team ID: -	Team-593068
Project Name: -	Genetic Classification of Individuals using Machine Learning
Maximum Marks: -	2 marks

Proposed Solution: -

Sr no.	Parameter	Description
1.	Problem Statement(Problem to be solved)	How might we effectively integrate machine learning algorithms to systematically analyze and validate genetic variants within ClinVar, particularly addressing instances where conflicting classifications arise due to the coexistence of two of the three categories (Likely Benign or Benign, VUS, and Likely Pathogenic or Pathogenic) for a single variant? This comprehensive approach aims to establish a reliable and standardized genetic variant classification system, ensuring accurate diagnoses and personalized treatment strategies for individuals with conflicting genetic variant interpretations, thereby enhancing the precision of clinical decision-making and advancing research in the field of genetic classification.
2.	Idea/Solution description	The proposed solution integrates several complex techniques, combining

		the strengths of different machine learning algorithms to create a powerful classification system. In addition, the personalized scoring system takes genetic and clinical aspects into account, providing a comprehensive approach for accurate variant classification.
3.	Novelty/Uniqueness	The proposed solution integrates multiple sophisticated techniques, combining the strengths of various machine learning algorithms to create a robust classification system. Additionally, the customized scoring system considers both genetic and clinical aspects, providing a comprehensive approach for precise variant categorization.
4.	Social Impact/Customer Satisfaction	By enhancing the accuracy of genetic variant classification, the solution contributes to improved patient care and better-informed medical decisions. The system empowers healthcare professionals and researchers with reliable genetic insights, leading to more effective disease management and treatment strategies.
5.	Business Model (Revenue Model)	The business model involves offering the integrated genetic variant classification system as a comprehensive software solution for clinical laboratories, research institutions, and healthcare facilities. Revenue can be generated through subscription-based licensing, providing access to the advanced classification tools and continuous updates.
6.	Scalability of the solution	The solution is designed with scalability in mind, capable of accommodating a growing volume of genetic data and

		accommodating advancements in genetic research. The system can be scaled to support an expanding user base, ensuring seamless integration into various healthcare and research settings.