**Solution Techniques for DiagnoSmart AI**

**DiagonSmart is a Supervised Machine Learning**

DiagnoSmart uses patient symptom and prevalence data to train a Logistic Regression model that helps identify mental health risk levels. The model can handle both simple yes/no cases and more complex types of mental illness, making it easy to adapt to different clinic needs.

DiagnoSmart also uses a Random Forest model to improve prediction accuracy and handle more complex mental health classification tasks. This model works by building many decision trees and combining their results to make a final prediction.

**Hybrid Recommendation System**

**Collaborative Filtering**, Leverages patterns from similar patient profiles to recommend interventions that have shown positive outcomes in comparable cases. This hybrid approach enhances personalization by balancing individual needs with population-level insights.

**Continuous Learning and Ethical Safeguards**

Clinician feedback is used to retrain models periodically.

All predictions are advisory final decisions rest with human professionals.