Elements of AIML

In Class Project



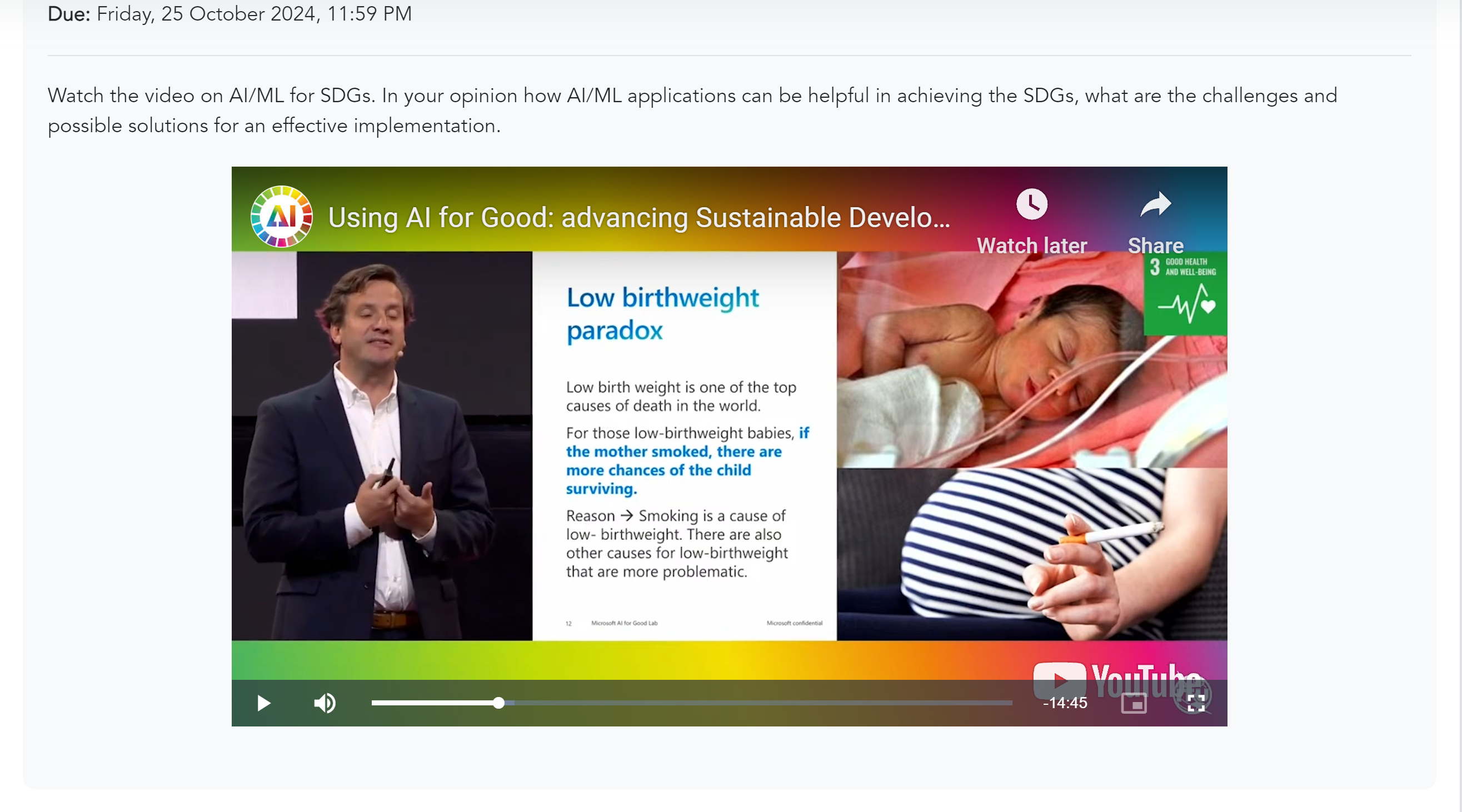
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**Conclusion:**

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Quite surprisingly, I totally agree with Mr. Juan’s insights into how AI and ML will help humanity in realising the UN Sustainable Development Goals (SDGs). These technologies are apt at handling big datasets on various difficult global problems giving accurate and helpful solutions. Due to challenges such as these, structured datasets are ideal for training models to solve the problems.

Hence, these models when applied for imbalanced datasets K-Fold Cross-Validation can be used for both the evaluation and tuning of predictions. Furthermore, techniques such as SMOTE (Synthetic Minority Over-sampling Technique) facilitates generation of synthetic samples for underrepresented instances which improves both, accuracy, and employability of AI systems in the decision making process to accordingly and fairly.

Another factor that is even more important when it comes to model optimality is the selection of appropriate algorithms which can range from basic Logistic Regression (LR), Linear Discriminant Analysis (LDA), or more complex K-Nearest Neighbors (KNN) or Classification and Regression Trees (CART) algorithms. So when AI is tuned with these models, it can hit on the target when dealing with SDG related concerns such as health, nutrition and environmental conservation.  
  
While integrating these ideas into AI and ML systems, a distinctive approach to positive change can be achieved. Here’s a closer look at specific SDGs where AI could have a transformative impact:  
  
**1. Healthcare (SDG 3: Good Health and Well-Being):**

AI-Driven Diagnostics: AI diagnostic models are capable of identifying many diseases at an early stage and can identify cancers. They can also get insight of the spread of an epidemic using factors affecting spread of the disease prevalent in the society. According to Mr. Juan, AI could be used in analyzing maternal health included the diet to recommend on fertility and other health enhancing factors to control the fertility rates across the globe.  
Personalized Medicine: It also provides an opportunity to create individual treatment programs on the basis of a comparison of the patient’s health state with other similar cases, which will ultimately improve the outcomes of medical treatment.

**2. Agriculture (SDG 2: Zero Hunger):**

Precision Agriculture: Using artificial intelligence, one can be able to determine the condition of the soil, the appropriate climate history, and state of crops in order to advise on which crops are best suited for which season thus enhancing production and minimizing on losses. Optimizing Food Supply Chains: This makes it possible through use of AI in demand frequency and forecast to get food to the right areas of high needs. This concept is similar to what Mr. Juan has pointed in which the use of AI to help in coordinating live update to address the basic needs of the affected most severe areas.

**3. Education (SDG 4: Quality Education):**

Personalized Learning Platforms: AI can use input from traditional and online classes to prepare material according to learner’s needs and geographical location, making education more accessible. Applications such as Byju’s and Unacademy already employ AI to assist the distant learners while applications such as ChatGPT offers answers in different knowledge areas to support learning at any time and place.

**Thankfully, the application of these strategies makes AI and ML the driving force of change for a better world, with sustainable development goals.**