Practical Assessment: Training a Machine Learning Model with Teachable Machine

Objective:

Train a machine learning model using Teachable Machine to recognize an object or action that involves you. Analyse the data collection process and Teachable Machine's functionalities, reflecting on your learnings and potential applications.

Learning Outcomes:

- Gain hands-on experience with a user-friendly machine learning tool.
- Understand the basic principles of data collection and its impact on model accuracy.
- Analyse the strengths and limitations of Teachable Machine.
- Identify potential applications of your trained model.

Task:

1. **Choose a Project:** Decide on an object or action you want your model to recognise. Examples include:
    - Classifying hand gestures (peace sign, thumbs up)
    - Recognizing different facial expressions
    - Distinguishing between various clothing items you wear
    - Identifying specific objects you use regularly (laptop, coffee mug)
    - Classifying different sounds (snapping fingers, clapping etc.)
2. **Data Collection:** Capture images, sounds, or videos (depending on your project) showcasing the chosen object/action from various angles and lighting conditions. Aim for a balanced dataset representing its different variations.
3. **Teachable Machine:** Upload your data as different classes to Teachable Machine and create a model.
4. **Test and Evaluate:** Test your model with unseen data and analyse its accuracy.

5. **Report:** Write a report reflecting on the following aspects (1-2 Pages submitted as in **.pdf** format):
    - Data collection process:
        - Describe the challenges and successes of gathering data.
        - Did the amount and diversity of data impact the model's performance?
    - Teachable Machine experience:
        - Explain the ease of use and functionalities you found helpful.
        - Mention any limitations or difficulties you encountered.
        - **Please include screenshots of your environment when using Teachable Machine, this is important for assessment.**
    - Learnings and Applications:
        - Discuss what you learned about machine learning and data collection.
        - Propose potential applications of your trained model in personal or professional settings.

Resources:

- Teachable Machine: https://teachablemachine.withgoogle.com/

Note:

- Focus on learning and exploration, not achieving perfect accuracy.
- Have fun and experiment!