AI Assignment: Yoga-Themed Proof of Concept

Objective

Develop an AI-powered feature that enhances the yoga experience through personalization, feedback, or innovative functionalities. This assignment is intended to evaluate your AI skills, problem-solving abilities, and creativity in building solutions relevant to the wellness domain.

Requirements

1. **Select a Use Case:**
   Choose one of the following yoga-related use cases to build your proof of concept (PoC):
   - **Pose Detection & Correction:** Create a model to identify yoga poses and provide feedback for alignment and accuracy.
   - **Breathing Pattern Analysis:** Develop a tool that uses audio input or other signals to analyze breathing patterns during yoga.
   - **Mood-Based Session Recommendation:** Use sentiment analysis to suggest yoga routines based on the user's mood (derived from text, voice, or other data).
   - **Personalized Wellness Insights:** Generate personalized reports based on user data like pose proficiency, session duration, or engagement.
2. **Data Selection:**
   - Use publicly available datasets or generate synthetic data for your PoC.
   - Ensure the data is relevant to the chosen use case.
3. **Model Development:**
   - Train a machine learning or deep learning model suitable for the selected use case.
   - Clearly outline your model’s architecture and decision-making process.
   - Optimize the model for accuracy, efficiency, or real-time application, depending on the feature.
4. **Integration with a Yoga App (Optional):**
   - Simulate how your AI feature could be integrated into a yoga app by creating a mock API or demonstrating a simple interface.

Key Areas to Focus On

1. **Problem Understanding & Creativity:**
   - Clearly articulate the problem you're solving and your innovative approach.
2. **Model Performance:**
   - Demonstrate the effectiveness of your model through metrics or visualizations.
3. **User-Centric Application:**
   - Ensure the feature aligns with the needs of yoga practitioners and enhances their experience.

4. **Scalability:**
    - Highlight how your feature could scale for diverse users and data.

Submission Guidelines

1. **Code and Documentation:**
    - Submit your code in a GitHub repository
    - Include detailed documentation explaining your approach, data preprocessing, model architecture, results, and next steps.
2. **Demo Video (Optional):**
    - Record a brief demo showcasing your feature in action.

Evaluation Criteria

Criterion	Weightage
Creativity and Innovation	25%
Model Accuracy and Robustness	25%
Practical Applicability	20%
Clarity in Documentation	20%
Bonus: Integration Potential	10%