Problem Statement

Title: Automated Interpretation of Multipara Monitor Data from Video Feed

Objective: Develop software capable of interpreting data from multipara monitors through video feeds, ensuring adaptability across various monitor models.

Description: The objective is to create a software solution that can accurately extract and interpret vital signs data such as Heart Rate (HR), Electrocardiogram (ECG) readings, and oxygen levels from multipara monitors. The software will analyze video feeds from the monitors and identify the critical data display areas, regardless of the monitor model or screen layout.

Detection of Data Display Areas The first task involves developing algorithms to automatically detect and locate the essential data display areas on the multipara monitor screens. This includes identifying regions containing HR, ECG, and oxygen level readings. The solution should be robust enough to handle variations in monitor screen sizes, resolutions, and layouts.

Tech Stack: The software will be developed primarily using Python programming language. The following libraries and tools will be utilized:

- **OpenCV**: for image processing and computer vision tasks, including object detection and localization.

Success Criteria: The software should accurately identify and extract data from multipara monitor screens with high precision and recall rates, achieving consistent performance across various monitor models and screen layouts. Additionally, the solution should demonstrate robustness to environmental factors such as lighting conditions and image distortions.