

C++ Assignment Problem

Problem 1:

Problem statement:

Develop an application in C++ which accepts the path of an image as input and detects face, age and gender for a human. The image should pass through three different models provided in the gDrive folder below. The program should be able to detect any number of faces in the image and should display the results with the bounding box, gender and age on the image itself as shown in the “sample-output.jpg” in the source folder.

Model Names:

1. Face detection model : opencv_face_detector_uint8.pb
2. Age detection model : age_net.caffemodel
3. Gender detection Model : gender_net.caffemodel

Code provided in the source folder contains “Main.cpp” that loads the above three models and detects face, age, gender through live webcam frames. You need to understand the code and modify it to accept the image as input through file I/O operation without changing the flow.

Prerequisite:

1. CMake
2. OpenCV 3
3. Download the model and source code from [C++ Assignment Problem](#)

Problem 2:

Problem statement:

Create a **JNI(Java Native Interface)** function which accepts a number from the java code. The function should determine whether the number is prime or not using the best approach. The final version of the program should be compiled as a **.so file**.



Prerequisite:

1. CMake

Submission guidelines:

1. Package JNI function name as "Java_com_techolution_assignment".
1. You don't need to write any Java code to send numbers for the problem statement 2.
2. Please feel free to use any other library or approach.
3. **Solution should be in C++.**
4. Develop the code as optimized as possible including comments at each stage.
5. Print the resulting output at each stage.
6. Prepare a single page document with summary of your approach and flow chart.
7. Upload your solution in gDrive folder and share the link with us.