Task 5.1: Computer Vision

This document supplies detailed information on Assessment Task 5.1 for this unit.

Key information

- **Deadline: Monday 24 April 2022 by 8.00 pm (AEST)**
- **You can submit this assignment twice. To get feedback you need to submit the assignment by 17 April to have time to resubmit it by the deadline.**

Overview:

During week 5, you have learnt about the computer vision as one of the important AI services and we have discussed some of the advanced machine learning models in this area. We also explored Azure computer vision and went through the codes how you can use Azure computer vision and custom vision services.

In this task, you need to develop a model to detect face with the coordinates, and some of the attributes like age, gender, emotion and accessories like glasses, mask and so on. **To do this task you need to use Azure computer vision.** This will help you to understand how to get access to advanced algorithms that process images.

To do this assignment, you need to refer to week5 lectures and seminar.

Submission details:

For this task you need to develop a program to detect faces/ face in the images with their rectangles coordinates and select face attributes like age, emotion, gender, and whether the given face has accessories such as glasses, masks, and headwear. You need to get images with faces to complete this task. To do this task, use the face detection with computer vision SDK on Azure.

It is recommended to follow the instruction on slides seminar and lecture recording for week5.

Submit the following files to Ontrack:

- **Submit your answers as a PDF file into the Ontrack. You need to answer the following parts in your document.**

- Please explain cell by cell of your code from reading a local image to face detection, drawing a bounding box around the face, and detecting different attributes like age, gender, emotions, and accessories (if there is). (hint: you can use Face API https://azure.microsoft.com/en-us/services/cognitive-services/face/) to complete this task. You need to provide the screenshot of your code and explain cell by cell of the code.

The focus of this task is on detecting faces in an image along with face attributes like age, gender, emotions, and accessories using Azure computer vision.

Instruction:

1. Review the seminar week5 (slides and videos) and follow them to understand how to use advanced computer vision algorithms on Azure.
2. You need to provide a document includes screenshot of your developed model.
3. Submit the task to Ontrack.